Summary

The Municipal Finance Impact of
Large-Scale Natural Resource Projects
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The author briefly examines different theoretical frameworks within which resource town development - in the wider context of regional resource development - may be viewed. At issue is consideration of the optimal relationship between those interests responsible for public infrastructure and the private interests creating a development. Since large-scale resource development projects, involving the establishment or expansion of resource-based communities, typically require large infusions of public funds for infrastructure, issues of public finance in general, and municipal finance in particular, need to be addressed.

From a public finance perspective the author finds it conceivable that a large-scale public infrastructure investment which cannot be readily justified in a narrow, project-specific, cost-benefit analysis may in fact be cost-effective in the long run. This could be the case if the infrastructure represented an investment in the general growth of the regional economy, if it led to the long-term creation of wealth, and if it resulted in a more diversified regional economic

structure. The author advocates that infrastructure investment policy in Alberta, especially for resource towns, should utilize a built-in sequence of incentives guided by a careful weighing of each particular infrastructure investment decision. Two questions to be addressed are, firstly, the extent of public sector involvement and, secondly, the distribution of revenue and expenditure functions between municipal and the provincial governments.

An empirical section of the Report outlines the municipal finance position of resource towns in Alberta using demographic and fiscal information for the period 1973-1983. Resource towns associated with large-scale natural resource projects are grouped to represent either "recent" or "older" oil and coal communities, and are compared with a sample or 'control' group of municipalities which are not particularly associated with large-scale resource development. The analysis of fiscal data is confined to the revenue side, the author being of the opinion that it is with respect to the distribution of revenues that the major fiscal policy arguments arise.

The author concludes that resource towns differ from non-resource towns in a number of respects. They exhibited a significantly larger population growth during the years 1973-1983, (although these growth rates declined in the latter part of this period). Comparative analyses of variables, such as assessment, property tax revenue and government transfers consistently point to an inherently weaker fiscal position for resource towns. With relatively low fiscal capacities (due to the location of resource plants outside the municipal boundaries) the resource towns are unable to generate the

required share of total revenues without an above average, or even excessive, fiscal effort. As a result, there is a greater reliance on provincial transfers. Also, the level of municipal indebtedness for resource towns tends to be relatively high.

A brief overview of the resource town situation in Alberta, British Columbia and Ontario is followed by a discussion of alternative policy options and institutional arrangements pertaining to resource towns. The author's policy action preferences reflect an economic viewpoint featuring efficiency and equity considerations. The efficiency factor relates to the allocation of scarce resources between alternative uses, the point being that the full costs of production, both private and social, have to be reflected in the market price of the resource. Otherwise, demand for the resource will be artificially inflated and subsequent depletion will be too rapid. The equity issue arises because individual citizens and the public at large--through their municipal and provincial governments--may be liable to carry an unfair burden, and find their net incomes reduced, if the social costs of resource production are not properly attributed to, and reflected in, the price of the resource.

The author acknowledges a narrowing of the discussion on policy options on account of the adoption of a modern laissez-faire approach as the basic theoretical framework. The approach is laissez-faire because the primary role in resource production is assigned to the private sector for all the well-known theoretical efficiency reasons. The approach is modern in that it recognizes a number of functions that governments must carry out if efficiency and equity are valued. The main functions are: the corrective function

(accounting for environmental and infrastructure costs); the allocative/supportive function (provision of infrastructure where warranted); and the appropriative function (collection of resource rents as payment for the resource; ability to pay component of the property tax). The policy discussion concludes by advancing the view that, in the present socio-economic and institutional environment, the industrial property tax is the appropriate vehicle for the appropriate placement of the cost burden incurred through global externalties spun off by large-scale natural resource projects.

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THE MUNICIPAL FINANCE IMPACT

OF LARGE-SCALE

NATURAL RESOURCE PROJECTS

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Lethbridge
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PREFACE

It has been the practice of Alberta Municipal Affairs to encourage and assist, whenever possible, with research investigations into issues having an important impact on municipalities in Alberta. In May 1982 Alberta Municipal Affairs agreed to financially assist this study by Dr. B. Ebel of the University of Lethbridge into the financial impact on municipalities affected by large-scale natural resource projects.

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1. INTRODUCTION

The purpose of this section is to characterize the problem at hand and to draw the boundary lines for the report.

It is recognized today that the issue of resource development in general, and of resource towns[1] specifically, is complex and multidisciplinary in nature. It has not only economic but also environmental and, especially, sociological dimensions.[2] The focus here is, however, primarily an economic one. The point is that, more than ever before, single large-scale natural resource projects have a profound impact on the public sector. Taxes of various sorts provide governments with revenues and the realization of the projects require, in turn, expenditures by different levels of government.

The reasons for the greater degree of government involvement in this area may be found in the greater expectations held and expressed by individuals in a Western industrialized society and, because of the high standard of living and national wealth, the ability of governments to deliver on these expectations. That this need not be so and was not always so is demonstrated

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[1] Inevitably a large number of different, yet largely synonymous, expressions are now used to refer to communities whose economic activity is substantially, if not exclusively, dependent on the production of a natural resource. Examples of such expressions are boom town, company town, mining town, and one-industry town. Here the largely neutral term resource town is used.

[2] See, for example, John Elliot, The Sociology of Natural Resources, Toronto: Butterworth & Co. (Canada) Ltd., 1981; but also, if in a somewhat different context, C.A. Dawson and E.R. Younge, Pioneering in the Prairie Provinces: The Social Side of the Settlement Process, Toronto: The Macmillan Company of Canada Ltd., 1940.

by comparing the present Canadian situation to that in less developed countries or, indeed, to Canada's own past.[3]

1.1 General Remarks

From the very beginning the Canadian economy has been an export-driven economy based on the exploitation of natural resources. Canada's economy did not run through the customary stages of economic development and the continued preponderance of the primary and primary-manufacturing sectors make it unique among Western industrialized nations.[4]

That such resource-based development has produced great benefits and resulted in a generally high standard of living is obvious; that, on the other hand, with such a course of development are associated some unique problems should come as no surprise. One problem exists in the amplification of international business cycles in the national economy of the resource-producing country and, *a fortiori*, in resource-producing regions and the resource towns themselves. This fact has important policy implications. Another problem occurs when resource towns lose their *raison d'etre*. This may happen in the case of nonrenewable resources due to the exhaustion of the deposit or because of the discovery of superior deposits

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[3] See Harold A. Innis, Settlement and the Mining Frontier, in W.A. Mackintosh and W.L.G. Joerg, Canadian Frontiers of Settlement, Vol. IX., Toronto: The Macmillan Company of Canada Limited, 1936, esp. p. 328.

[4] See Harvey S. Perloff *et al*, Regions, Resources and Economic Growth, Baltimore, Maryland: The Johns Hopkins Press, 1960, pp. 58-60 and, in a somewhat wider perspective, W.W. Rostow, The Process of Economic Growth, New York: W.W. Norton & Company, Inc., 1962; esp. chapt. XIII, The Stages of Economic Growth, pp. 307-331.

elsewhere.[5] Again, policy implications follow.

While resource towns have been a facet of Canadian economic development for more than a hundred years, the planning process for such towns has not always been as competent and complete as it is today. In the last twenty years or so, however, the state of the arts of planning and policy-making for resource development has improved greatly and with it the expertise in government departments. Benefit-cost analyses and social/environmental impact statements are now common tools of the trade.

To point out the nature of the change more clearly, it can be said that in economic optimizing private profit maximizing has been supplanted by some sort of social welfare maximization. In other words, it is not sufficient anymore for the project to yield an adequate rate of return for the private investor but, when all costs and benefits have been accounted for, the project must make a positive net contribution to the social good. This latter approach is much more sophisticated and a superior measure of the value of the resource project to society at large. The fundamental nature of this change can hardly be exaggerated.

1.2 Delineation of the Study

The development of a natural resource project is today a complex undertaking, often requiring the massive allocation of resources by the private as well as the public sector. Industry's effort tends to be

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[5] In the recent past this has occurred in the communities of Crowsnest Pass, Alberta; Uranium City, Saskatchewan; Faro, Yukon; Sudbury, Ontario; Schefferville, Quebec; to name only a few. As can be seen, the problem is one of substance in the Canadian context.

oriented towards the directly productive activities, the various levels of government tend to supply the infrastructure or, as Hanson put it, the economic and social overhead capital.[6] While this tends to be the division of functions, the more interesting and important question concerns the incidence of the financial burden for the required infrastructure. That, in the widest sense, is the subject matter of this report. Many of the considerations will apply to the more general question of the distribution of the cost burden; the focus here is especially on the local level, i.e. the municipal finance impact.

In order to deal in a fundamental manner with the municipal finance issues and problems raised by large natural resource projects, it must be realized that there are conceptual as well as practical aspects to the issue.

If well-founded optimizing policies with regard to resource development and associated municipal finance problems are to be devised, an explanatory framework has to be advanced and agreed upon, however rudimentary, in order to provide the necessary perspective and to see problems in a wholistic manner. This is important because it is the conceptual framework which, in turn, determines the sorts of policies which will be adopted. The theoretical framework may be more or less explicit, but it is always extant in rational policy-making.[7] Only a purely ad hoc

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[6] See Niles M. Hanson, "Unbalanced Growth and Regional Development," Western Economic Journal, IV, No. 1 (September 1965), pp. 3-14, esp. p.5.

[7] For a good example of such an approach see British Columbia, Ministry of Municipal Affairs, Municipal Boundaries and the Taxation of Large-Scale Enterprises, November 1982, pp. 17-25 and British Columbia, Environment and Land Use Committee Secretariat, Environmental and Social Impact Compensation/Mitigation Guidelines, pp. 6 ff.

approach would not be anchored in such manner. But then there is a price to be paid: inconsistent policies and inefficient resource allocation.

By way of delineation it may be pointed out that this report is not a case study of one or more resource towns in Alberta. Selected resource towns in Alberta and British Columbia were visited and municipal finance questions were discussed with municipal officials. However, the purpose of the field research was to identify common features and problems faced by resource towns.

Neither is it the purpose of this report to develop or suggest a general formula for provincial/municipal revenue/expenditure sharing. That would be, given the original charge and available resources, too tall an order.

Rather, this report will attempt to advance a number of alternative explanatory frameworks in which this specifically Canadian phenomenon of resource towns may be viewed and to outline and comment on a number of alternative municipal finance policy options emanating from such frameworks.

2. RESOURCE TOWNS AND ECONOMIC THEORY

Resource towns have been a feature of North American economic development for a long time. The expectation is that, barring the unlikely event of radical changes, they will continue to exist and remain a feature of Canadian development at the resource frontier for a long time to come.

Given these circumstances one might well ask what sort of explanatory frameworks could be advanced regarding this phenomenon. Some of the frameworks examined below have been graced with the name of "theory", even though they may be found wanting in general applicability and the explicitness of the important variables. Others are nothing more than the formulation of some general principles, not necessarily economic, underlying public and private decision-making.

2.1 Laissez-faire Approach

Under this approach, characteristic for many early resource developments, the role of government is confined to the setting and maintenance of the legal framework conditions for economic development. Apart from the standard role of protection of persons and property the government might do little else beside granting leases, i.e. the right to develop and produce the resource.[8] Revenues from lease sales and severance taxes (royalties) might be non-existent or minimal, the major revenues consisting of income taxes and other general benefits consequent upon an increase in economic activity. Infrastructure investments would be a responsibility of the

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[8] See, for example, H. Innis, Mining Frontier, p. 219.

private sector. Private roads, railways, and company towns are features of this approach.

While such an approach may not result in any significant public revenues in exchange for the alienation of the resource, the internalization of infrastructure costs into the private development ensures that these are met -- not altogether a foregone conclusion -- and that the failure of a natural resource venture will not leave the government in a loss position. This is a not insignificant advantage of the laissez-faire approach.

By eliminating the major weakness of this approach, i.e. the lack of public revenues (in the form of a severance tax) for the resource *per se*, this approach may be made more appealing for policy purposes. During the past two or three decades, however, the trend towards a mixed economy has resulted in resource developments with massive public sector involvement, both in terms of infrastructure and co-ownership of the development itself.[9]

While company towns may create social and political problems, their advantage from an economic point of view is clear: the financial responsibility for the town and all its facilities rests with the resource-producing firm. Production costs and associated costs for infrastructure are thus internalized and the resource will not be produced if total costs cannot be covered. In this sense the laissez-faire approach is quite

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[9] Large amounts of public infrastructure are required in modern resource towns as well as for the transportation arteries leading to them. Elkford and Tumbler Ridge, B.C. and Grande Cache and Fort McMurray, Alberta may serve as examples. Direct ownership of productive activities is held by such crown corporations as the British Columbia Resources Investment Corporation, the Alberta Energy Company and Petrocan.

modern. It is especially appropriate when the town's existence is exclusively oriented to the resource and no general public benefits are created. However, since decisions with regard to resource towns are not made exclusively on economic grounds its undesirable side effects may lead to its rejection at this point in time.

2.2 Short-run Employment Creation

Due to the nature of world demand for resources and the economic structure of resource-producing regions the fluctuations in economic activity tend to become amplified in resource-based economies. It is then tempting for governments to attempt to stimulate economic activity through infrastructure expenditures and incentives to resource companies.[10] While such a policy of job and income creation may be successful it represents an ad hoc approach to orderly long-term resource development. The subordination of long-term objectives to short-term necessities, if not expediency, will tend to result in suboptimal decisions. Unless circumstances are just right for the acceleration of a long-run development plan, not likely to be the case given national and international market conditions, a public cost minimization approach would suggest that infrastructure investment be export demand driven.[11]

2.3 Nation Building

The provision of infrastructure in support of resource industries through

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[10] In terms of the theory of income determination, G expenditures for the former and T and I incentives for the latter.

[11] Exports, as used here, means exports from the region.

the public sector might loosely be viewed as an exercise in "nation building". If the infrastructure enjoys wide-spread usage, creates external economies for other industries and long-term benefits of national significance then such action may be warranted in the public interest. As Canadian examples one may cite the building of the trans-continent railways and the expansion of irrigation in Southern Alberta. An international example would be the building of dikes in Holland to reclaim land from the North Sea. The impact of such projects cannot be captured by benefit-cost analysis; benefits are too widespread, in many cases non-monetary, and extend over generations.

Looking at resource towns from this perspective one is forced to conclude that the conditions mentioned above may not be fulfilled in many instances. Moreover, in the majority of cases it is the production of a finite, non-renewable resource that is at issue. Recognition of this fact forces a distinction between development and exploitation of a natural resource. For nonrenewable resource it is in essence always the latter whereas for renewable resources investment in the resource will augment future flows and a viable long-term economic base may be created or strengthened.

How much infrastructure investment may be justified using this criterion will depend on careful scrutiny and the weighing of each individual case.

2.4 Staples and Export Base Theory

The staple theory of regional economic growth and its further development, the export base theory, provide the most complete explanatory framework and policy foundation for resource development. They have clear policy

implication for the public provision of infrastructure in general and resource town infrastructure in particular.

While Innis' staple theory contained the original idea[12], it may now be viewed as a special case of North's export base theory which allows for the export base to be products from the primary, secondary, as well as tertiary sector of the economy. Far from being a short-run theory of income determination it is a theory explaining long-term regional growth and, alas, decline. Of relevance here are the exports of staple commodities of the primary sector which may, if quantities are massive enough and deposits are not exhausted prematurely, result in a strong and ultimately diversified regional economy. The theory addresses itself to pitfalls along the way and the danger of a region becoming stranded without ever having achieved self-sustaining economic growth.[13]

Without discussing further details of the theory relevant policy implications may be examined. It would appear to be a direct and logical conclusion from the export base theory that public policy should be directed towards the assistance of export base industries. Since regional fortunes depend on the success of the export industry, tax, tariff, and infrastructure policy should be supportive.

While the export base industries may be the original source of wealth, the foundation of the regional economy, and the source of further investment

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[12]The fundamental role in Canadian economic development attributed to natural resource staples is evident in much of Innis' writing; see W.A. Mackintosh, "Innis on Canadian Economic Development," Journal of Political Economy, LXI (June 1953), pp. 185-194.

[13]See Douglass C. North, "Location Theory and Regional Economic Growth," Journal of Political Economy, LXIII (June 1955), pp. 243-258.

funds there tends to be an overreliance on these industries and a lack of economic diversification. Public policy should guard against this. However, as long as the conditions of the export base theory are satisfied there exists a strong case for a symbiotic relationship between the resource sector and government. Resource towns are, in this light, an organic component of regional economic development.

2.5 Infrastructure and Growth Sequences

Hirschman's writings on economic development contain ideas which are relevant to policy formulation with regard to resource towns.[14] At issue is the optimal relationship in the development process between public infrastructure and private sector activities. Since large-scale resource projects and the establishment or expansion of resource towns typically require large infusions of public funds for infrastructure, Hirschman's discussion has obvious public finance and especially municipal finance implications.

Once it is recognized that there does not exist a fixed technological relationship between infrastructure investment and directly productive activities, the option to proceed either via shortage or via excess capacity of overhead capital presents itself. Attempting to maximize induced economic decision-making, Hirschman calls these options compulsive and permissive sequence, respectively.

Since, everything else being equal, the compulsive sequence maximizes

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[14] Albert O. Hirschman, The Strategy of Economic Development, New Haven and London: Yale University Press, 1970; esp. pp. 81-95.

induced decision-making, development via shortage of infrastructure is preferred. This has the added advantage that the possibility for potentially costly mistakes is minimized. The more specific the region and the industrial activity which the infrastructure serves, the more risky the public investment.

The message from the above considerations for infrastructure policy in Alberta, especially for resource towns, appears to lie less in one of the extremes as in an incentive to utilize any built-in sequence incentives by carefully weighing each particular infrastructure investment decision. Previously unsettled resource regions may well require an initial excess of infrastructure; indeed it may be the required stimulus for directly productive investment. On the other hand, as Hirschman points out, a moderate infrastructure shortage is not likely to do much damage to a really dynamic developing area.

> "In such a situation industries will think nothing of bringing in their own diesel generators, of digging for their own water, and of building their own access roads and workers' houses."[15]

It may be justified to conclude that private investment decisions which are so marginal as to require specialized public infrastructure to become viable are not worth pursuing in the first place.

2.6 Long-run Development Tool

It is conceivable that even, and perhaps especially, large-scale public infrastructure investment which cannot be justified in a benefit-cost

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[15] Ibid., p. 95.

analysis framework is cost-effective in the long-run. This would be so if the infrastructure represented investment in the general growth of the regional economy and lead to the long-term creation of wealth and a more diversified regional economic structure.

Two possible cases must be distinguished: one applies to renewable, the other to nonrenewable resources. In the former case, the activity supported will itself become a permanent component of the regional economic base in the long-run. Such could be the case for agriculture.[16] In the latter case of non-renewable resources the economic surplus created by the extractive industry would form the springboard, as it were, for launching the regional economy on the path of a more balanced economy. It is, of course, necessary in this situation to ensure that the long-run potential not be frittered away to achieve, however pressing, short-term goals.

Both situations apply to the Alberta scene at the present time. The obvious challenge lies in refraining from using long-term arguments as a cloak for short-term fixes. This is not a minor task.

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[16] This was the case in Holland in the first half of the seventeenth century. See K.H.D. Haley, The Dutch in the Seventeenth Century, London: Thames and Hudson Ltd., 1972, p. 38. Irrigation expansion in Southern Alberta — past, present, and future -- also belongs in this category.

3. RESOURCE TOWNS IN ALBERTA

The production of Canada's earliest staples, fish and fur, did not require permanent settlement. Indeed, as in the case of fur, it might even be detrimental to production. Canada's great staple, wheat, tied the country into the international trading network. The pattern of settlement it generated was, as is well known especially on the prairies, dispersed rather than concentrated; the major role of towns was that of a service centre to the surrounding area.

The large-scale production of forest products and of metallic and non-metallic minerals resulted in the establishment of resource towns per se. The first and perhaps most (in)famous were the communities that sprang up in the wake of the gold rush some 120 years ago. They were followed by the mill town and the mining community.

3.1 Overview and Characterization

The major reasons for the establishment of resource towns are the distance to established centres and the necessity to house a permanent work force. Initially the provision of housing and municipal services were either an individual or a company responsibility. There were few, if any, amenities. The government did not become involved in any substantive way and there was no public finance problem. Casual observation indicates that the economic surplus left the town as well as the region and the environmental and social quality of life low.

After W.W.II the situation changed rapidly. Provincial governments accepted an active role in resource development and often acted as catalysts,

initiating new town development.[17] Gone were the days of bunkhouses for single men. Rising expectations led to planned communities with three-bedroom bungalows for families, recreational and shopping facilities, and access to a spectrum of government services.

Government involvement in the provision of housing and infrastructure had obvious public finance implications. The questions to be answered concern, first, the extent of public sector involvement and, second, the distribution of revenue and expenditure functions between municipal and provincial governments.

3.2 Time Profile

The first resource towns in Alberta were associated with coal-mining and date back to the beginning of this century.[18] They were located in or adjacent to the eastern part of the Rocky Mountains. The three main areas were the Coal Branch (south of Hinton), Nordegg (west of Rocky Mountain House), and the Crowsnest Pass area in Southern Alberta.

The second group of resource towns sprang up in the early 1950s with the expansion of the oil and gas industry.[19] This development occured

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[17] For example Cynthia, Drayton Valley, Hinton, Lodgepole. See Alberta, An Act to Provide for the Development and Planning of New Towns in the Province, Edmonton, 1956.

[18] Coleman 1903; Bellevue 1906; Foothills, Mercoal, Nordegg 1912; Blairmore 1917; for a more complete listing see Ira M. Robinson, New Industrial Towns at Canada's Resource Frontier, Chicago: University of Chicago, Department of Geography, 1962.

[19] Devon and Redwater 1949; Drayton Valley 1955; Cynthia 1956; Hinton 1956 and, more recently Whitecourt are the only Alberta resource towns based on forest resources.

concurrently with, and indeed is largely the cause of, the precipitous decline in the use of coal as an energy form. The impact on the coal towns was devastating.

The third and present group of resource towns is comprised of four types:

a) stable or declining towns at the tail end of the oil and gas boom (Cynthia, Lodgepole, Drayton Valley, Rainbow Lake, Swan Hills)

b) stable and possibly expanding forestry towns (Hinton, Whitecourt)

c) heavy oil/oil sands towns with rapid growth potential (Fort McMurray, Cold Lake/Grande Centre, Bonnyville)

d) stable, stagnant or declining coal towns (Grande Cache, Hinton, Edson, Crowsnest Pass).

It may be noted that while early coal mines produced almost exclusively for the domestic market, the mines with which today's coal towns are associated export virtually all of their output. This difference may have public policy implications.

There are, in addition, a small number of resource towns different from the ones listed above. They are located in close proximity to mine-mouth power plants and house mine and power plant employees. Examples would be Wabamun and Forestburg/Galahad. Production of these mines is consumed domestically. These towns are relatively stable and lack the boom town atmosphere and problems. Future towns of this type may include Coalhurst/Shaughnessy in Southern Alberta.

For about a decade the government of Alberta has actively favoured a policy of utilizing existing communities as resource towns if they are located in reasonable proximity to the resource deposit.[20] This policy, occasioned by experience as well as efficiency considerations, seeks to avoid the duplication of infrastructure, social problems, and future obligations involved with instant resource towns. Advances in transportation technology make this alternative increasingly feasible. Distributional questions may arise because this policy forces mining firms to internalize through transportation costs cost components otherwise spun off to the public sector in the form of new town infrastructure costs.

While the rapid expansion due to a large-scale resource project will almost certainly bring problems for existing towns, these appear to be smaller in size and scope than those associated with new towns.[21] It may well be that with Grande Cache and Fort McMurray the last instant one-industry resource towns have been built in Alberta for a long time to come. The option of transportation allowances paid by the firm and the present distribution of settlements and transportation arteries may have eliminated the need for such new towns altogether.

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[20] Hinton/Edson in Alberta would be a good example for this policy. Fernie/Sparwood/Elkford in British Columbia represent the alternative approach; a new town in the Flathead River area of south-eastern B.C. would be its antithesis.

[21] Even in Gillette, Wyoming cattle and coal appear to be "mixing" better than they initially did.

4. FISCAL IMPACTS

This section provides quantitative information regarding the municipal finance position of resource towns. The analysis of data confines itself largely to the revenue side, for it is with respect to the distribution of revenues that the major fiscal argument arises.

As the population of an existing community increases in response to a large resource project so do municipal expenditures. These increases may roughly be of a similar per capita amount if there exists an excess capacity of infrastructure, as may often be the case. If, however, certain types of infrastructure are present in optimal amounts, i.e. are used to capacity, or new types of infrastructure are demanded as a result of the resource project, then marginal expenditures may be well in excess of average per capita expenditures. Specific case studies would be required to analyse this impact.

There are a number of ways in which the additional financial burden may be distributed. First, it may be placed on the existing population through an increase in the property tax. This may be to a large extent an unfair distribution of the burden since no or few benefits may accrue in return. Second, the resource firm may be taxed an additional amount corresponding to the cost increase. This would appear to be appropriate as it is the project itself that gives rise to the population and cost increase. The problem is, as will be discussed in greater detail below, that the project itself is usually located outside the municipal

jurisdiction.[22] Third, the provincial government may carry the extra burden by making available special grants to fast-growing resource communities. As was shown above, this may be defensible under certain conditions. It is clear, however, that in all such cases the natural resource rents are diminished below their normal level.

Alberta resource communities cover the spectrum from brand new single-industry towns (such as Grande Cache and Fort McMurray) to established, relatively large and diversified towns (such as Edson and Hinton) whose existence would not be in question were the resource activity to cease.

After a brief discussion of the grouping of towns, population and fiscal data are presented and analyzed. This is followed by a critical examination of policy options for this provincial-municipal problem.

4.1 Community Groupings

In order to analyze demographic and fiscal data four groups of communities were established. The first two groups, called "Group 1 Communities" and "Group 2 Communities" consist of resource towns. The other two groups serve as a reference for the purpose of comparison; the third group is named "Reference Communities" and the fourth group consists only of the "City of Lethbridge".

Group 1 Communities are made up of relatively recent oil and coal towns

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[22] Nevertheless, tacit recognition of responsibility and good-will frequently leads the resource firms to donate money for municipal projects such as recreational complexes.

all except Grande Cache with a population in 1983 of over 5000 (considering Cold Lake and Grand Centre as one).[23] Included are Cold Lake, Edson, Fort McMurray, Grand Centre, Grande Cache, and Hinton. All these communities are associated with large-scale natural resource projects. Ignoring the effects of the current recession (and with the exception of Grande Cache) this is the group of boom towns.

Except for Whitecourt Group 2 Communities consist of older coal and oil towns, some of them with a population under 5000 in 1983: Crowsnest Pass, Drayton Valley, Fox Creek, and Swan Hills.[24] Apart from Whitecourt these communities appeared to be in a period of slow growth or even decline during the time period reviewed.

An attempt was made to select for the group of Reference Communities towns which were not significantly influenced by large-scale resource projects at present or in the recent past. Included are Camrose, Drumheller, Peace River, Ponoka, Vegreville, and Westlock.[25]

The City of Lethbridge was included as a fourth group because it includes in one jurisdiction a population of roughly the same order of magnitude as those of the other three groups.[26] It has, of course, as a large community a more diversified economic base. This might provide a useful comparison.

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[23] See Table A-1 in Appendix A.

[24] See Table A-2 in Appendix A.

[25] See Table A3 in Appendix A.

[26] See Table A4 in Appendix A.

No attempt was made here to impose a greater degree of homogeneity as a selection criterion for the groups. Such possibilities might include completely new resource towns vs. existing communities or a distinction according to the expansionary, stagnant, declining phase of the boom-bust cycle of resource towns. Such detail is, however, beyond the scope of this report.

4.2 Population, Assessment, Mill Rates

As Table 1 shows, during the period 1973-1983 the four groups of communities showed marked differences in population growth rates. This is the more noteworthy because, as was mentioned above, no attempt was made to eliminate all heterogeneity within the groups.

Group 1 had a population of 25,058 in 1973 and a population of 60,636 in 1983. This amounts to an average annual increase of 9.7 percent over the entire time period.[27] However, the most rapid growth occured during the first five years with an average growth rate of 12.9 percent during 1973-1978 compared with only 5.9 percent during 1978-1983.[28]

The population of Group 2 rose from 15,443 to 22,327 for an average increase of 3.8 percent. During the first five years these towns grew at an average rate of 3.8 percent but this slowed to 1.9 percent for the 1978-1983 period. In fact, the growth rate fell to 0.2 percent during the last three years and may well have been slightly negative during 1982-1983.

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[27] See Table 2.

[28] For the entire province of Alberta the average population growth rates were: 3.9 percent for 1973-1983; 4.3 percent for 1973-1978; 2.9 percent for 1978-1983.

TABLE 1

POPULATION AND POPULATION GROWTH RATES
(IN PARENTHESES) FOR COMMUNITY GROUPS
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	25,058	15,443	31,770	42,816
	(4.3)	(3.5)	(0.8)	(1.9)
1974	26,135	15,990	32,037	43,612
	(20.3)	(0.9)	(0.9)	(2.1)
1975	31,448	16,136	32,309	44,522
	(9.3)	(4.8)	(2.4)	(5.2)
1976	34,385	16,911	33,076	46,818
	(17.5)	(4.2)	(4.0)	(-1.8)
1977	40,405	17,619	34,409	45,975
	(12.5)	(15.3)	(1.0)	(9.3)
1978	45,434	20,318	34,767	50,268
	(4.5)	(4.0)	(3.7)	(2.8)
1979	47,454	21,135	36,056	51,668
	(6.7)	(4.2)	(4.1)	(2.8)
1980	50,645	20,027	37,538	53,135
	(8.0)	(0.8)	(2.6)	(2.8)
1981	54,689	22,202	38,499	54,624
	(7.0)	(0.6)	(4.6)	(3.4)
1982	58,514	22,327	40,264	56,500
	(3.6)	(0.0)	(2.8)	(2.8)
1983	60,636	22,327	41,403	58,086

SOURCE: Tables A-1 to A-4 in Appendix A.

TABLE 2

AVERAGE POPULATION GROWTH RATES
(PERCENT)

Period	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973-1978	12.8	5.8	1.8	3.3
1978-1983	5.9	1.9	3.6	2.9
1973-1983	9.4	3.8	2.7	3.1

SOURCE: Table 1, p. 22.

By comparison, the population for the reference group was 31,770 in 1973 and 41,403 in 1983 for an average growth rate of 2.7 percent. The average rates were 1.8 percent for 1973-1978 and 3.6 percent for 1978-1983. It may be noted that while the growth rates for the two groups of resource towns for the later sub-period fell to less than half of their earlier level, the rate for reference towns was double as high in the later sub-period compared with the earlier one. The trends are thus exactly reversed.

Not unexpectedly, the most even demographic development was shown by the reference community of Lethbridge. Its population increased from 42,816 to 58,086 during the 1973-1983 period. The sub-period growth rates of 2.9 and 3.3 (for earlier and later respectively) did not diverge much from the average overall rate of 3.1 for the entire period. The more diversified economic base would be one of the explanatory factors for this phenomenon.

It appears then that for all resource towns taken together, the phase of rapid expansion ended in 1978. Despite some, perhaps even significant, variation from this trend for individual communities, present macro-economic considerations suggest that this trend will persist in the foreseeable future.

As population data, real property assessment information is of a fundamental nature because it represents one measure of the physical wealth that has been put into place in the community.[29] It is in a sense a measure of the cost associated with resource extraction. While the total taxable assessment contains additional categories, real property assessment, i.e. land and buildings & improvements, is by far the largest and forms the basis for the lion's share of the municipalities' own revenues, the property tax.

Due to differences in assessment and valuation procedures stemming from the concurrent use of different Assessment Manuals, the actual assessment figures are not comparable among communities. In order to afford comparability, the Alberta Assessment Equalization Board publishes equalized assessment figures and it is these that are used here. It should be noted that the published figures for any given year correspond to the assessment of the previous year. In order to compensate for this lag the 1973-1983 time series of assessment data in this report actually is the 1974-1984 series of published figures.

As Table 3 shows, the equalized assessment for Group 1 Communities

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[29] By the same token, it is a measure of the loss incurred when resource extraction ends. This painful experience is not uncommon in Canada.

TABLE 3

EQUALIZED PROPERTY ASSESSMENT
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	55,603,730	24,943,510	66,996,320	102,522,510
1974	69,864,030	27,704,560	77,402,490	115,126,260
1975	75,550,450	26,844,460	68,172,150	131,990,330
1976	99,647,070	29,951,990	84,421,210	149,047,960
1977	125,000,690	34,783,290	101,095,700	177,294,460
1978	155,891,620	48,068,710	124,200,810	210,122,320
1979	221,570,400	75,212,740	175,905,390	270,846,710
1980	287,652,950	98,256,010	222,375,040	333,301,370
1981	343,666,140	119,444,900	254,815,720	377,832,700
1982	404,891,510	132,670,740	288,027,550	434,707,730
1983	421,620,860	138,590,910	289,451,990	460,266,860

SOURCE: Tables A-5 to A-8 in Appendix A.

increased at the fastest rate from $55,603,730 in 1973 to $421,620,860 in 1983. This amounts to a 7.5-fold increase. Group 2 Communities showed the second-fastest increase from $24,943,510 in 1973 to $138,590,910 in 1983 or a 5.5-fold increase. The growth in equalized assessment for the group of Reference Communities from $66,996,320 to $289,451,990 or a 4.3-fold over the period was almost at the same rate as that for Lethbridge which showed a rise from $102,522,510 in 1973 to $460,266,860 in 1983 for a 4.5-fold increase.

Despite of the large increase for resource towns, the absolute assessment figures do not reveal the revenue potential in relation to the needs of the community. In Table 4 the assessment figures are therefore presented on a per capita basis. It can now be seen that the average per capita assessment is lowest for the two groups of resource towns, with $4,293 and $3,374 for Group 1 and Group 2 respectively. While the 'non-boom' resource towns of Group 2 are significantly disadvantaged according to this measure, Group 1 towns almost reach the average per capita assessment for Reference Communities of $4,297. Lethbridge shows the highest average for the review period with $4,834.

The amount of property tax revenues is determined by the application of a mill rate to the taxable assessment. However, since they are derived by relating actual assessment to required tax revenues, the resulting actual mill rates show as little comparability as the actual assessment itself. In order to achieve comparability two equalized mill rates were calculated for this report.

The equalized *local* mill rates, shown in Table 6, were derived by dividing

TABLE 4

PER CAPITA EQUALIZED PROPERTY ASSESSMENT
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	2,219	1,615	2,109	2,394
1974	2,673	1,733	2,416	2,640
1975	2,402	1,664	2,110	2,965
1976	2,898	1,771	2,552	3,184
1977	3,094	1,974	2,938	3,856
1978	3,431	2,366	3,572	4,180
1979	4,669	3,559	4,879	5,242
1980	5,680	4,906	5,924	6,273
1981	6,284	5,380	6,619	6,917
1982	6,920	5,942	7,153	7,694
1983	6,953	6,207	6,991	7,924
Average 1973-1983	4,293	3,374	4,297	4,843

SOURCE: Tables 1 and 3.

equalized assessment into total taxation.[30] The total taxation figures include requisitions for school and hospital purposes and are provided in Table 5. A more detailed discussion of the revenue situation follows in section 4.3 below and the focus here is on the property tax burden.

The equalized *municipal* mill rates of Table 9 are derived by subtracting total requisitions (Table 7) from total taxation and dividing the resulting municipal taxation figures (Table 8) by the equalized assessment.[31]

While both the local and the municipal equalized mill rates show some variability within each community group over time, notably the effect of the municipal debt reduction program in 1979, two observations may be made.

First, variations during the review period notwithstanding, Group 2 and Reference towns had virtually the same local mill rate in 1973 as they did in 1983 (79.22 vs. 79.83 and 83.20 vs. 84.35 resp.). Netting out requisitions, the municipal mill rates for both groups ended up some four mills above the 1973 level (48.81 vs. 52.85 and 47.05 vs. 51.32).

Second, while Group 1 communities had the lowest equalized local and municipal mill rates in 1973 (67.45 and 35.03 resp.) they had the highest ones of all groups in 1983 (86.55 and 54.02 resp.). The situation for Lethbridge, on the other hand, shows exactly the opposite development. Showing the highest local and municipal rates in 1973 (88.55 and 49.22 resp.), the Lethbridge rates were lower than those for all other groups by 1983 (65.28 and 34.97 resp.).

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[30] Equalized local mill rate = $\frac{\text{total taxation x 1000}}{\text{equalized assessment}}$.

[31] Equalized municipal mill rate = $\frac{\text{municipal taxation x 1000}}{\text{equalized assessment}}$.

TABLE 5

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
TOTAL TAXATION ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	3,750,628	1,976,121	5,574,234	9,078,384
1974	4,424,479	1,981,868	6,053,468	8,862,680
1975	5,759,825	2,562,995	7,246,672	10,461,602
1976	8,129,827	2,908,768	8,282,422	12,512,264
1977	11,166,388	3,408,159	9,613,591	14,261,653
1978	13,733,657	4,085,077	11,335,743	16,812,736
1979	17,152,413	5,070,039	13,010,369	18,448,421
1980	21,458,876	6,378,699	15,893,999	20,758,909
1981	27,244,559	8,334,270	20,375,457	23,827,178
1982	34,133,466	10,210,819	22,959,316	27,300,246
1983	36,489,724	11,063,739	24,415,541	30,044,125

SOURCE: Tables A-9 to A-12 in Appendix A.

TABLE 6

AVERAGE EQUALIZED LOCAL MILL RATES
FOR COMMUNITY GROUPS[1]
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	67.45	79.22	83.20	88.55
1974	63.33	71.54	78.21	76.98
1975	76.24	95.48	106.30	79.26
1976	81.59	97.11	98.11	83.95
1977	89.33	97.98	95.09	80.44
1978	88.10	84.98	91.27	80.01
1979	77.41	67.41	73.96	68.11
1980	74.60	64.92	71.47	62.28
1981	79.28	69.78	79.96	63.06
1982	84.30	76.96	79.71	62.80
1983	86.55	79.83	84.35	65.28

SOURCE: Calculated from Tables 3 and 5.

1 The average equalized local mill rate is based on total taxation and calculated as follows: $\frac{\text{Total Taxation x 1000}}{\text{Equalized Assessment}}$.

TABLE 7

TOTAL REQUISITION
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	1,802,955	758,633	2,422,291	4,031,778
1974	1,543,602	627,040	1,683,221	2,770,675
1975	2,134,876	703,531	2,052,864	3,277,259
1976	2,676,916	785,023	2,313,702	4,545,483
1977	3,625,944	894,515	3,119,970	5,474,362
1978	4,691,362	1,094,548	3,919,770	6,809,385
1979	6,506,300	1,756,554	5,281,869	8,643,023
1980	8,308,526	2,505,239	6,974,253	9,316,783
1981	10,687,402	2,997,769	7,771,342	10,590,973
1982	13,301,176	3,414,844	9,169,869	12,393,379
1983	13,714,617	3,739,591	9,558,160	13,948,838

SOURCE: Tables A-13 to A-16 in Appendix A.

TABLE 8

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
MUNICIPAL TAXATION ($)[1]
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	1,947,673	1,217,488	3,151,943	5,046,606
1974	2,880,877	1,354,828	4,370,247	6,092,005
1975	3,624,949	1,859,464	5,193,808	7,184,343
1976	5,452,911	2,123,745	5,968,720	7,966,781
1977	7,540,444	2,513,644	6,493,621	8,787,291
1978	9,042,295	2,990,529	7,415,973	10,003,351
1979	10,646,113	3,313,485	7,728,500	9,805,398
1980	13,150,350	3,873,460	8,919,746	11,442,126
1981	16,557,157	5,336,501	12,604,115	13,236,205
1982	20,832,290	6,795,975	13,789,447	14,906,867
1983	22,775,107	7,324,148	14,857,381	16,095,287

SOURCE: Tables 5 and 6.

1 Municipal taxation consists of total taxation minus total requisition.

TABLE 9

AVERAGE EQUALIZED MUNICIPAL MILL RATES
FOR COMMUNITY GROUPS[1]
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	35.03	48.81	47.05	49.22
1974	41.24	48.90	56.46	52.92
1975	47.98	69.27	76.19	54.43
1976	54.72	70.91	70.70	53.45
1977	60.32	72.27	64.23	49.56
1978	58.00	62.21	59.71	47.61
1979	48.05	44.05	43.94	36.20
1980	45.72	39.42	40.11	34.33
1981	48.18	44.68	49.46	35.03
1982	51.45	51.22	47.88	34.29
1983	54.02	52.85	51.32	34.97

SOURCE: Calculated from Tables 3 and 7.

1 The average equalized municipal mill rate is based on municipal taxation, i.e. excluding requisition, and calculate as follows:

$$\frac{\text{Municipal Taxation} \times 1000}{\text{Equalized Assessment}}$$

One may be tempted to conclude that the high costs of development and the lack of a diversified tax base, partially but not completely compensated for by provincial transfers (see section 4.3 below), leaves municipalities in boom towns no other choice but to put some of the burden on local residents if customary municipal services are to be provided.

4.3 Total Operating Revenues and Transfers

The public sector at the local level comprises a number of different jurisdictional and administrative units. Under the political or jurisdictional aspect one may distinguish school boards, hospital boards, and the municipal government itself. Under the administrative or operational aspect the municipal government per se, the transit system, and other utilities may be viewed as separate units. From an economic perspective, however, the type of organizational structure is of secondary importance and the emphasis is on public sector resource allocation. Consequently the revenue figures used here are the ones representing total consolidated revenues.[32]

By netting out requisitions and utilities other revenue concepts could have been derived and analyzed. It is assumed here, however, that such scaling down would not affect the relative magnitudes among the community groups and thus have no substantive impact on the conclusions.

Table 10 shows that total operating revenues for Group 1 resource towns increase approximately 10-fold; the increase was over 6-fold for Group 2 towns, 5½-fold for reference communities, and almost 6-fold for Lethbridge.[33]

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[32] Revenue figures thus are Grand Total, Revenue, Consolidation of Operating Fund Statements of Revenue & Expenditure; they include requisitions & utilities.

[33] It should be noted that the large increase in revenues in 1979 was due to the provincial government's Municipal Debt Reduction Program.

TABLE 10

TOTAL OPERATING REVENUES FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	7,360,414	4,318,965	9,220,033	18,956,544
1974	9,306,092	4,688,714	10,187,475	23,660,359
1975	13,147,325	5,692,988	12,257,083	26,127,942
1976	15,831,473	6,731,473	14,680,750	31,315,831
1977	20,763,340	7,912,677	17,365,533	37,393,285
1978	27,227,095	9,615,215	21,490,888	41,772,354
1979	56,042,707	23,972,567	43,466,297	71,737,182
1980	40,874,368	17,373,547	32,363,735	53,942,954
1981	61,803,661	19,765,080	36,715,419	76,869,270
1982	66,472,669	25,204,261	46,974,018	96,540,720
1983	72,628,715	27,068,670	50,709,580	109,810,841

SOURCE: Tables A-13 to A-16 in Appendix A.

In order to eliminate the effect of population growth, the revenue figures are presented on a per capita basis in Table 11. Here the weakest position is occupied, as expected by Group 2 Communities with a 1973-1983 average of $679.94. This compares with $735.76 and $724.27 for Group 1 and Reference Communities respectively, and a significantly higher $1,026.85 for Lethbridge. It may be noted, that for the last two years the per capita figures for Reference Communities have exceeded those for the resource towns. The higher level for Lethbridge is a reflection of both greater fiscal capacity and the higher level of public goods and services provided in a larger community.

A more detailed analysis of the composition of total revenues reveals that even the relatively weak revenue position is only achieved through the injection of transfer payments. Table 12 provides the absolute amounts of conditional and unconditional operating transfers from governments, clearly showing the effect of the debt reduction program in 1979. The per capita figures in Table 13 indicate that resource towns are the recipients of greater transfers than other communities. With a 1973-1983 average of $184.41 the larger resource towns of Group 1 have the highest per capita amount followed by Group 2 resource towns with $162.04. Reference towns and Lethbridge are significantly lower with $145.16 and $139.18 respectively. Overall resource towns tend to receive over twenty percent more in transfers than non-resource towns. Moreover, the difference appears to be widening. While the average per capita gap in transfers between resource towns and non-resource towns was $43.15 in the 1973-1978 period, it was $92.82 for the period 1979-1983. Since such transfers come primarily from the province's general revenue fund, the

TABLE 11

PER CAPITA OPERATING REVENUES
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	293.74	279.67	290.21	442.74
1974	356.08	293.23	317.99	542.52
1975	418.07	352.81	379.37	586.85
1976	460.42	398.05	443.85	668.88
1977	513.88	449.10	504.68	813.34
1978	599.27	473.24	618.14	830.99
1979	1,180.99	1,134.26	1,205.52	1,388.43
1980	807.08	867.51	862.16	1,015.21
1981	1,130.09	890.24	953.67	1,407.24
1982	1,136.01	1,128.87	1,166.65	1,708.69
1983	1,197.78	1,212.37	1,224.78	1,890.49
Average 1973-1983	735.76	679.94	724.27	1,026.85

SOURCE: Tables 1 and 10.

TABLE 12

TOTAL OPERATING TRANSFERS
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	1,543,620	762,275	1,296,222	2,359,384
1974	2,145,268	1,082,355	1,423,512	4,056,103
1975	4,169,954	1,234,741	2,026,352	2,898,427
1976	3,824,285	1,272,417	2,462,696	3,658,881
1977	4,125,543	1,717,407	2,674,440	5,141,590
1978	7,490,333	2,350,731	4,275,573	4,743,812
1979	31,665,549	11,851,158	23,023,220	30,319,500
1980	10,997,082	5,805,785	6,622,858	6,034,286
1981	7,629,972	2,783,940	4,057,585	4,515,633
1982	10,920,674	3,550,556	5,086,339	7,133,801
1983	9,912,302	3,692,484	5,257,131	7,402,853

SOURCE: Tables A17 - A20 in Appendix A.

TABLE 13

PER CAPITA OPERATING TRANSFERS
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	61.60	49.36	40.80	55.11
1974	82.08	67.69	44.43	93.00
1975	132.60	76.52	62.72	65.10
1976	111.22	75.24	74.46	78.15
1977	102.10	97.47	77.73	111.83
1978	164.86	115.70	122.98	94.37
1979	667.29	560.74	638.54	586.81
1980	217.14	289.90	176.43	113.57
1981	139.52	125.39	105.39	82.67
1982	186.63	159.03	126.32	126.26
1983	163.47	165.38	126.97	127.45
Average 1973-1983	184.41	162.04	145.16	139.48

SOURCE: Tables 1 and 12.

transfer differentials represent one measure of the additional costs to society of resource towns.[34] In this sense they can be thought of as reducing the provincial resource rent revenues below their gross level.

Table 14 provides directly the information inherent in previous tables. It shows that the fiscal capacity, in terms of own revenues generated on a per capita basis, is lowest for Group 2 towns with $513.13 as an average for the entire period. With $555.04 the Group 1 towns are still below the average for the reference group of $579.11 and Lethbridge with $887.37.

This situation is expressed in a slightly different form in Table 15. It measures the degree of reliance of the town groups on government transfers as a source of operating revenues. Group 1 towns show the greatest dependence, receiving on average almost one-quarter (24.8 percent) of their revenues in the form of transfers over the 1973-1983 period. With 22.9 percent Group 2 towns are also well above twenty percent. Reference towns and Lethbridge follow with 18.4 and 13.7 percent respectively.

The analysis of revenue and transfer data thus leads to the same conclusion as that of assessment and mill rate figures. Resource towns tend to have a weaker own revenue base when compared to non-resource communities and in order to provide a level of services roughly similar to that available in non-resource towns higher transfer payments are required. In general it may be stated that these differences are due to economic factors, such as location and the structure of the economic base, and the time profile of natural resource developments. As will be seen below,

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[34] There are, of course, other cost elements, especially those outside the municipal jurisdiction such as roads, bridges, railways, etc. which are largely single-purpose in nature.

TABLE 14

PER CAPITA OWN REVENUES
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	232.13	230.31	249.41	387.64
1974	273.99	225.54	273.56	449.52
1975	285.47	276.29	316.65	521.75
1976	349.20	322.81	369.39	590.73
1977	411.78	351.62	426.95	701.51
1978	434.41	357.54	495.16	736.62
1979	513.70	573.52	566.98	801.61
1980	589.94	525.16	685.73	901.64
1981	990.58	764.85	848.28	1324.58
1982	949.38	969.84	1040.33	1582.42
1983	1034.31	1046.99	1097.81	1763.04
Average (1973-1983)	555.04	513.13	579.11	887.37

SOURCE: Tables 11 and 13.

TABLE 15

TOTAL OPERATING TRANSFERS AS
PERCENTAGE OF TOTAL OPERATING REVENUES
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	20.97	17.65	14.06	12.45
1974	23.05	23.08	13.97	17.14
1975	31.72	21.69	16.53	11.09
1976	24.16	18.90	16.78	11.68
1977	19.87	21.70	15.40	13.75
1978	27.51	24.45	19.89	11.36
1979	56.50	49.44	52.97	42.26
1980	26.90	33.42	20.46	11.19
1981	12.35	14.09	11.05	5.87
1982	16.43	14.09	10.83	7.39
1983	13.65	13.64	10.37	6.74
Average 1973-1983	24.83	22.92	18.39	13.72

SOURCE: Tables 10 and 12.

the make-up of the economic base in turn is partly dependent on such administrative factors as the boundaries of the municipality.

Since the above remarks on transfers referred to operating transfers alone a brief look at conditional capital transfers now appears in order. These transfers are extended to municipalities for specific capital projects. Some types of transfers are available to all communities (e.g. sewage treatment plants), others only to certain types of municipalities (e.g. the urban parks program), and yet others simply apply less to some communities than to others (e.g. arterial roads). Even though this report does not examine the details of the provisions for capital transfer eligibility of communities, a few comments may be made.

In the case of a pure resource town the value of the infrastructure represents a sunk cost which has no alternative uses at all once the resource activity ceases. This consideration would point to prudence in the allocation of scarce financial resources to such capital projects because the opportunity costs, i.e. the benefits foregone by not using the money in its next best alternative, may be substantial. While it may be argued that most resource towns in Alberta are multi-function communities a few of them are of the pure type, notably Grande Cache and Fort McMurray. Even in those communities extensive capital outlays may be justified if the time profile of resource extraction extends over a generation or longer. In any case, capital transfers represent another cost of resource extraction and again diminish the gross resource rents received by the provincial government.

As Table 16 shows, substantial capital transfers were made to all groups

TABLE 16

CONDITIONAL CAPITAL TRANSFERS
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	1,016,002	258,031	206,647	404,076
1974	2,659,936	557,321	346,677	3,178,785
1975	1,410,279	814,828	1,181,155	1,916,454
1976	1,684,344	556,614	2,218,186	1,369,694
1977	319,050	708,989	3,382,501	2,932,049
1978	3,424,581	810,354	1,530,294	3,445,936
1979	2,552,056	9,149,804	3,516,824	2,876,153
1980	5,616,100	8,473,426	7,199,613	9,630,135
1981	9,653,146	4,635,658	10,664,937	7,216,099
1982	8,005,586	4,487,664	13,586,603	16,111,905
1983	4,758,893	3,939,311	15,567,254	21,050,990
Total	41,099,973	34,392,000	59,400,691	70,132,276

SOURCE: Tables A-21 to A-24 in Appendix A.

of communities. They amounted to $75.5 million for the two groups of resource towns for the entire review period. No attempt will be made here to distinguish between pure and multi-function communities or even to determine which share in the latter is attributable to the natural resource extraction.[35]

The per capita figures of Table 17 show Group 2 communities to have received the largest grants with an average of $162.15 between 1973 and 1983. It is also evident, however, that the major increases have occured since 1979. During the early sub-period 1973-1978 Group 2 towns had in fact the lowest per capita average (see Table 18). Reference communities and Lethbridge show a rather steady increase, with few fluctuations, from the lowest per capita figures in 1973 to the highest in 1983. The low for Group 1 communities is somewhat surprising, because their 1973-1983 average of $82.27 is almost only half that of the Group 2 towns. One explanation that can be advanced is that by 1979 towns in this group had essentially reached their optimum size and no major resource development requiring infrastructure expansion occured during the rest of the time period.

The above explanation finds support in the sub-period averages shown in Table 14. Here Group 1 communities had the highest average of $53.14 during the early period of 1973-1983, falling to the lowest group average of $111.29 for the 1979-1983 period. As a result the later average is only about double the former while the one for Lethbridge is four times higher, six times for Reference Communities, and a full eightfold increase

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[35]The abnormally low figure for Group 1 in 1977 may be noted.

TABLE 17

PER CAPITA CAPITAL TRANSFERS
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	40.55	16.71	6.50	4.88
1974	101.78	34.85	10.82	72.89
1975	44.84	50.50	36.56	43.05
1976	48.98	32.91	67.05	29.26
1977	7.90	40.24	98.30	63.77
1978	75.37	39.88	44.02	68.55
1979	53.78	432.92	97.54	55.67
1980	110.89	423.10	191.80	181.24
1981	176.51	208.79	277.02	132.10
1982	136.81	201.00	337.44	285.17
1983	78.48	176.44	375.99	362.41
Average 1973-1983	82.27	162.15	149.92	125.20

SOURCE: Tables 1 and 16.

for the Group 2 average. This development may warrant further attention.

TABLE 18

AVERAGE PER CAPITA CAPITAL TRANSFERS
FOR COMMUNITY GROUPS ($)

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973-78	53.24	35.85	43.88	47.07
1979-83	111.29	288.45	255.96	203.32

SOURCE: Table 17.

4.4 Municipal Debt

The final municipal finance variable to be examined is that of the municipal debt. The data for the four groups of communities are presented in Table 19 on a per capita basis. The total debt per capita includes the general municipal debt as well as utilities and school debt.[36]

The two groups of resource towns had a lower level of per capita debt in 1973 than the two groups of reference communities, i.e. $387.48 and $338.63 versus $408.79 and $462.41 respectively. By 1983 their per capita debt load had surpassed that of the reference groups. Group 1 resource towns had the highest level with $1,576.20 followed by Group 2 resource towns with $1,292.88. The group Reference Communities, showing a rather

[36]Since the total level of indebtedness is of importance here the total debenture figures include the municipality's as well as the owner's share. It may be noted, however, that the latter is virtually zero in Alberta's newest pure resource towns of Fort McMurray and Grande Cache.

TABLE 19

TOTAL DEBT PER CAPITA
FOR COMMUNITY GROUPS ($)
1973-1983

Year	Group 1 Communities	Group 2 Communities	Reference Communities	Lethbridge
1973	387.48	338.63	408.79	462.41
1974	422.47	378.50	413.42	486.08
1975	532.19	496.98	499.68	563.52
1976	573.68	1,098.20	582.97	552.61
1977	544.34	1,101.47	622.17	542.20
1978	761.29	1,183.78	781.48	540.35
1979	549.22	800.52	729.31	331.65
1980	672.07	982.04	1,010.03	744.28
1981	1,088.15	1,227.46	1,137.31	887.89
1982	1,436.98	1,266.13	1,260.54	896.02
1983	1,576.20	1,292.88	1,261.79	1,077.51

SOURCE: Tables A-25 to A-28 in Appendix A.

rapid rise in the last five years, reached a level of $1,261.79 and Lethbridge had $1,077.51.

In terms of the average for the 1973-1983 period the per capita debt load for Group 2 Communities was substantially above that of the other groups with $924.24 compared with $791.59 for Reference Communities, $776.73 for Group 1 and $664.05 for Lethbridge.

As this report is not intended to be a case study no reference has been made to individual resource towns throughout the report. It may be suggested, however, that it would be of interest to study, for individual towns as well as groups the time profile of resource town development from establishment and growth to maturity and decline and to identify the municipal finance problems corresponding to these phases. It is, of course, inevitable that the grouping of towns in this report hides some information peculiar to individual towns but the attempt to discern common features requires that this be so. Analysis of the per capita debt of individual communities[37] shows that the high level for Cold Lake/ Grande Centre in Group 1, namely $2,353.88 for the 1981-1983 period, would have propelled this group to the second-highest level if the grouping had been more homogeneous and not been counterbalanced by such more diversified communities as Hinton or towns in their mature phase such as Grande Cache.

Incorporating the above remarks it may be concluded that the debt load of resource towns tends to be higher than that of non-resource communities.

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[37] See Table A-25 in Appendix A.

Since the debt at any point of time is also an indication of the extent of previous capital commitments, the differences in per capita debt are yet another view of the cost of resource development and resource towns.

4.5 Summary

The above analysis should be seen as an attempt to shed some light on the nature and extent of the differences between resource towns and non-resource towns from a fiscal perspective.

Relatively high rates of population growth point to rapidly rising expenditure requirements. It is difficult, however, for resource towns to satisfy this fiscal need from own sources because of relatively low fiscal capacity as measured by per capita real property assessment. This capacity is low because the resource projects tend to be located outside the municipal boundaries. As a result a comparable or even greater-than-average fiscal effort is not sufficient to raise the required share of total revenues and relatively large transfer payments result. The level of indebtedness tends to be relatively high, especially for some of the resource towns. It may be surmised that debt analysis in greater detail would confirm this result.

The above findings point to a need for policy action for both reasons of efficiency and equity. These are, of course, economic reasons and it may be argued that they should be paramount in this particular situation. It is recognized, however, that there are other reasons, for example political ones, which may point to a maintenance of the status quo. Such course of action is not advocated here because the viewpoint of the report is an economic one.

The efficiency argument refers to the allocation of scarce resources to alternative uses. Here scarce financial resources are used in order to facilitate the production of natural resources and if the full costs of production, private and social, are not reflected in the market prices of the resources demand will be larger than optimal and depletion too rapid. The point is that not only the privately-owned factors of production need to earn a competitive return but also the social costs -- notably of infrastructure — and resource rents must be covered.[38]

The equity issue arises because individual citizens and the provincial government carry an unfair cost burden and find their net incomes reduced if the social costs of resource production are not properly attributed to and carried through in the price of the resource.

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[38]Recognition of this fact has led some countries to reduce their natural resource production due to low world market prices. See "Opec's fellow travellers fall by the wayside", The Economist, 19 January 1985, p. 65. This position may be contrasted to the one portrayed in "McIntyre hopes Ontario steel mill will buy", The Lethbridge Herald, 21 January 1985, p. B6 which publicizes royalty and transport cost concessions for coal mining firms in Alberta.

5. FISCAL ARRANGEMENTS AND POLICY OPTIONS

The major purpose of this section is to develop and discuss a policy approach which would appear to be both viable and preferable in its socioeconomic impact to the situation that exists in Alberta at the present time. A description of this situation is followed by a brief review of the experience with resource towns in other Canadian provinces. Then follows the policy discussion.

5.1 Present Situation in Alberta

Resource towns are an issue, if not a problem in Alberta, because the province has resource towns at the "boom" stage as well as at the "bust" stage of the cycle and just about anywhere in between as well. So while on the one hand the province has to scramble from time to time to prevent overheating (made somewhat easier by the current recession), its policy action for other towns must, as it were, attempt to prevent hypothermia (made a lot harder by the recession).[39] In recent policy moves the Province has relocated to troubled communities certain services provided by government and crown corporations. While the wisdom of such moves will not be discussed here it may be pointed out that remedial action of this sort represents another cost of resource development and one which may yield little in terms of benefits.

Resource towns in Alberta receive much the same fiscal treatment from the province as any other town. They may levy property taxes and charge

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[39] Contrary to other provinces (e.g. Ontario, Quebec, Saskatchewan and Yukon), no fatalities have occured in Alberta yet.

standard fees, are eligible for operating and capital transfers and a host of other provincial assistance programs just like any other community.[40] There are, however, two respects in which resource towns may differ from non-resource communities which deserve further comment because they have an impact on the towns' fiscal position. These occur if the resource community has new town status and/or if the resource project with which it is associated is located in an improvement district.

The operations of a new town are run by a board of administrators the composition of which is largely in the hands of the minister of the Department of Municipal Affairs. Typically it consists of civil servants, elected citizens of the town, and representatives of the resource industry. New town status enables the town to receive special financial assistance from the Province.[41] Such assistance will be added to the towns debt. Recognizing the inability of the town to assume full fiscal responsibility in the early stages of its development, all important planning, development and money decisions require approval of the Alberta Planning Board or the Local Authorities Board.[42] As noted above, many new towns have been established in Alberta during the past three decades, the latest ones being Fort McMurray and Grande Cache. While the Act and extant institutions appear to have served well in the operation of these communities, the socioeconomic efficiency of allocating rather massive public

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[40] For an extensive reference to such programs see Alberta Municipal Affairs, Alberta Municipal Assistance Programs 1984, Alberta Municipal Affairs, Municipal Services Branch, August 1984.

[41] See Alberta, New Towns Act, Art. 19(1)-(4), p. 6.

[42] Ibid., art. 14-15, p. 5; art. 18, p. 6.

funds toward the establishment of towns with ultimately quite limited prospects is being questioned now. This is judged to be a positive development.

Due to their sparse population and the resulting lack of a sufficient constituency for local self-government, regions of Northern Alberta and along the foothills of the Rocky Mountains have been organized as Improvement Districts (I.D.s). Since many large-scale natural resource projects are located in these unincorporated areas while their employees and dependants live in incorporated towns or villages within these areas, the question of compensating the municipalities for additional expenditure requirements arises. At the present time this is accomplished, at least in part, through the Industrial I.D. Tax Transfer Program whereby a special levy is imposed on industrial property in I.D.s and transfered as a per capita amount for employees and dependants to host municipalities.[43] In 1984 the amount was $60 per capita. For the seventeen communities receiving transfers, they represented very different additions to tax revenues, ranging from less than 1 percent to over 47 percent.[44]

While being a step in the right direction, the program is found wanting on a number of counts. Some of them relate to administrative and operational questions which, although important, will not be considered further

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[43] See Alberta, PMFC, Report, pp. 165 and 169-172; and Alberta, Municipal Affairs, Special Projects Branch, November 1981; ibid., Industrial Improvement District Tax Transfers--Policy Options, Edmonton: Alberta Municipal Affairs, Urban Advisory Group and Special Projects Branch, August 1982.

[44] See Alberta, Municipal Affairs, Tax Transfers, Table 7, p. 18.

in this report.[45] The principal reason for this is that both remedies discussed and recommended in Section 5.3 below go beyond even a modified program of the present type.

One aspect of the program should, however, be discussed and dispensed with here because it represents such a glaring inequity. As it stands now two locational criteria must be met for the program to apply: both the resource project and the town must be located in an industrial I.D. The reason for this may be, understandably, administrative ease in that it does not require stepping on anybody's (i.e. a municipality's) toes, as it were. As a result one of the most basic public finance principles—that of horizontal equity--is violated. Horizontal equity entails the equal treatment of equals and it is quite obvious that in the present situation resource towns in similar circumstances with regard to the municipal finance impact of large-scale natural resource projects are treated very differently. This situation could and should be improved even before a more comprehensive solution is adopted.

Before taking a look at the issue of resource towns beyond the borders of Alberta, brief mention must be made at this juncture of the property tax assessment growth-sharing scheme. It has been discussed in detail elsewhere and addresses a problem which is, in essence, quite different from that of resource towns.[46] Noting the sizeable differences among Alberta municipalities in per capita equalized assessment, it envisages

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[45] For a good discussion see Alberta, Municipal Affairs, Tax Transfers--Policy Options, pp. 7-8.

[46] See Alberta, PMFC, A Proposal For Property Tax Growth-Sharing, Edmonton: PMFC, December 1976 and Alberta PMFC, Report, pp. 155-176.

that half of all nonresidential assessment growth in the Province would be evenly distributed among all municipalities, thus sharing more equitably the benefits of economic growth. There is no need, for the purpose of this report, to argue through the pros and cons of growth-sharing because it is too broad a proposal and was neither designed nor is able to focus on the specific municipal finance problems of resource towns. While most resource towns would stand to benefit somewhat under growth-sharing, such schemes would treat them similar to all other municipalities. A major point of this report is, however, that they are different and have unique problems. This would appear to call for a more differentiated policy response than universal property tax growth-sharing, whatever its merits.

5.2 Experience Outside Alberta

If confirmation was needed that resource towns are a policy issue of national significance it was provided when the matter was taken up by a national newsmagazine.[47] As noted above, provincial governments had long before become aware of and sensitized to the multiplicity of problems associated with resource towns and made some policy changes. It is during recession or depression that the strength and resilience of a regional economy is put to a test and the current downturn in economic activity is no exception. The fundamental structural weaknesses of resource are only too glaringly exposed. Not only in Alberta but also in other provinces are new approaches and alternatives being developed

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[47] See "The lengthening shadow of ghost towns", Maclean's, January 21, 1985, pp. 46-47.

and the resource town approach itself subjected to more detailed analysis.[48] It must be stressed, however, that the prospects for economic diversification--currently much talked about--remain dubious at best. Public finance aspects tend to receive, with few exceptions, less attention than social and planning issues.[49] There appears to be a consensus that, if the risks inherent in resource towns cannot be altogether avoided through, say, a fly in/fly out schemes a "shared risk approach" is required. It would see the three participants--residents, firm(s), government(s)--cooperate in carrying the risk. The next section will emphasize that risk sharing be preceded by risk minimization.

In the remainder of this section three specific cases are briefly examined, two in British Columbia and one in Ontario. Needless to say, a large number of additional cases from these and other provinces could have been discussed. That is, however, neither the point of this report nor would a more comprehensive list add much in terms of conceptual insights.[50]

Judging by the available literature and, at least partly, from personal

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[48] See, for example, Federal, Provincial and Territorial Ministers with Responsibilities for Mining, Report of the Task Force on Mining Communities, n.p., September 1982, especially p. 8 and pp. 55 ff. Some of the information regarding Alberta is inaccurate and/or dated, especially the list of mining communities on p. 79.

[49] See, however Gary Paget and Brian Walisser, "The Development of Mining Communities in British Columbia: Resilience Through Local Governance", in: Mining Communities: Hard Lessons for the Future, Kingston: Centre for Resource Studies, June 1984, esp. pp. 131-137.

[50] According to The Canadian Association of Threatened Single-Industry Towns as many as 811 communities across Canada are involved. See "Lobby formed to save small towns", Globe and Mail, 14 March 1985, p. 4.

observation it appears that the two B.C. cases represent good solutions to the municipal finance problem from both an operation and a theoretical perspective. Coal development in the North-East resulted in the establishment of the resource town of Tumbler Ridge. Its relatively recent origin (1981) allowed it to be preceded by a number of general and specific studies that reflect the more advanced thinking and analysis of the early 1980's compared with that of earlier decades.[51] The fact that only one town and one industry are involved in an undeveloped region makes this case relatively straightforward. It was, for example, possible to adopt the financial plan of the socioeconomic study as a basis for negotiation with the mining firms and the capital budget.[52] The salient features of the Tumbler Ridge case are that the municipal boundaries include not only the town but also the mining firms, that the firms are subject to full municipal taxation, and that the financial arrangements are designed to ensure long-term fiscal viability and a fair distribution of the tax burden and the financial risk.

The Elk Valley situation is considerably more complex since it involves as many as four mining firms, the Province of British Columbia and the three resource towns of Elkford, Fernie and Sparwood in an industrial property tax base sharing agreement that uses the fiscal capacity approach

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[51] See British Columbia, Compensation/Mitigation, and British Columbia, Ministry of Municipal Affairs, Conceptual Plan Tumbler Ridge Northeast Sector, B.C.: Update, by R.A. Rabnett and Associates et al, Victoria: March 1981. Also subsequently British Columbia, Ministry of Industry and Small Business Development, A Benefit-Cost Analysis of the North East Coal Development, Victoria: July 1982 which was preceded by studies dating back to 1976.

[52] See G. Paget and B. Walisser, "Resilience", p. 139.

to distribute property tax revenues from the coal mine assessment to the communities according to need and the impact experienced.[53] Personal interviews revealed general approval of and satisfaction with the scheme on the part of municipal administrators. A perusal of the alternatives may well lead to the conclusion that "... the Elk Valley tax base sharing scheme could become a model for other resource regions."[54]

The Ontario case concerns the Hemlo area where an expansion of gold ore mining and processing would affect a number of small communities more (Manitonwadge, Marathon, White River) or less (Schreiber, Terrace Bay, Wawa).[55] Each community is dependent for the majority of its property tax revenues on one major resource firm located within its boundaries. The Hemlo gold area, however, is not located in a municipality and thus no property taxes are levied. Despite the obvious impact in terms of expenditure requirements, some deemed to be of significant size,[56] it is expected that "no municipality will benefit directly from non-residential assessment generated by the development of the resource."[57] Even though potential financial difficulties are anticipated in the Hemlo study and a number of policy options are listed, for example mine annexation and special provincial transfers, there is at this stage no conceptual solution to the problem which could, in a consistent manner, serve as a base for policy making.

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[53] See British Columbia, Boundaries, p. 66.

[54] G. Paget and B. Walisser, "Resilience", p. 133.

[55] See Ontario, Ministry of Municipal Affairs and Housing, Hemlo Impact Study, Special Projects Branch and C.N. Watson and Associates, November 1983.

[56] See ibid., p. I-7.

[57] Ibid., p. III-1.

This brief review, together with the information on Alberta, gives an indication of the wide variety of policies designed to deal with the municipal finance impact of large-scale resource projects in three of Canada's most important mining provinces.

5.3 Policy and Institutional Arrangements

It was stated above that the public finance problems of resource towns are only a facet of the larger question of economic development in a resource-based region. Thus while it is not the purpose of this report to discuss provincial resource policies, some rational selection has to be made because it, in turn, will have repercussions for the design of provincial-municipal fiscal relations.

Some basic features of the modern laissez faire approach adopted here are laid out below as a number of propositions which then establish the framework for the policy discussion. Some of the propositions simply are positive statements, i.e. statements regarding facts, while others contain normative components derived from the theoretical considerations above.[58] It is understood that such a small set of statements cannot cover the large variety of actual cases. The point is to capture the essence of the situation and to have an approach that is internally consistent and can be defended in terms of a number of economic and non-economic criteria. The former criteria are efficiency and equity; the latter are administrability and acceptability. They will be discussed further below. The first four propositions relate to resource market

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[58] See Section 2, pp. 6 ff.

and price aspects, the last four to local public finance aspects. The propositions are as follows:

Proposition 1: The resources produced are private goods and there is no inherent reason (in terms of the theory of market failure) for public production.

Proposition 2: The resources are public property and are non-renewable and thus represent, if produced, a declining asset. It is in the public interest to maximize the return from the assets, i.e. the natural resource rents (including windfall gains).

Proposition 3: The resources are traded in export markets at world market prices. These prices cannot be changed unilaterally. Only quantity decisions can be made.

Proposition 4: Market fluctuations themselves cannot be eliminated or even mitigated through government interference.

Proposition 5: Resource production requires infrastructure which is dedicated and has no alternative uses.

Proposition 6: Nothing can be said a priori regarding public versus private provision of infrastructure (production is usually private).

Proposition 7: Regardless of which economic agent provides the infrastructure, real costs are incurred.

Proposition 8: Given the current state of economic affairs and institutions, the property tax in general, and the industrial property tax specifically, is an appropriate means of raising the funds required to pay for benefits received and compensate for global externalities created by large-scale resource projects.

These propositions raise a number of questions which will be discussed in turn.

Besides stating an important fact, Proposition 1 is significant in that non-adherence to it eliminates the beneficial arms-length position that the state needs for impartial decision-making in the area of resource taxation and social costs (environment and infrastructure). If the state owns the mining firm or becomes the partner of a private firm the otherwise clear mandate becomes muddled.

Proposition 2 also states an obvious fact and specifies the objective function of the state with respect to resource taxation. The goal is rational and derives from the role of the state as a resource owner/guardian and its responsibility to the present and future generations of its citizens as the real owners of the resource. As was noted previously, this public finance role of the government is conceptually very different from the narrower resource town and infrastructure financing aspects. In the interest of optimization in both areas these must be kept strictly apart. Following this argument it is, for example, not proper to think of compensating resource towns for the global externalities imposed on

them through resource production out of the royalty part of general revenues.

The bitter pill of truth of Proposition 3 even OPEC has to swallow at the present time. It is no less bitter for many Western Canadian coal mining firms. But since the price is determined through the interplay of supply and demand, it must fall, *ceteris paribus*, if the demand curve shifts to the left, i.e. demand decreases. But the decision can always be made not to produce the resource if it does not yield an adequate return. Such a decision will have an impact, possibly severe, on resource towns and policy trade-offs may occur. The greater the government involvement in production and infrastructure provision the more likely the trade-off in favour of subsidization through revenue concessions. Of course, if the resource rents contained a significant windfall element, this may be reduced freely without much concern.

Acceptance of Proposition 4, coupled with the empirically verifiable knowledge that fluctuations in economic activity are inherent in the capitalist economic system, point to a conservative stance in the expansion phase of the business cycle and preparedness for contraction. For resource towns this means aiming for flexibility and planning more for the average than the marginal output increment. Such planning could be managed through direct government regulation.

Proposition 5 states the situation more strongly than will be the case in some instances. But it is true in many instances and to the extent that it is not, the policy problem is lessened. Clearly, the objective is to minimize the amount of totally dedicated infrastructure and, if it is

necessary, aim for complete cost recovery in a reasonable amount of time. It may well be that the resource will be produced and the infrastructure will pay for itself eventually. In the meantime, however, the principal and interest cost of the infrastructure mortgage, as it were, mount.

It may be stated as a principle following from Proposition 6 that the more dedicated the infrastructure required the more should the provision be by the private firm(s), and vice versa. It is naturally in the interest of the resource firm to shift, even for single-purpose projects, the burden of providing housing onto private individuals and the burden of infrastructure costs into the public sector. This may, however, not be in the public interest. Arguments regarding the benefits of local self-governance and autonomy may have to be severely discounted in the case of resource towns for they have little meaning in the boom phase when the necessary local institutions do not yet exist or in the bust phase when people have to walk away from their houses.[59] These remarks are not meant to deny the virtuous implications of local governance but to point out that they may not apply in the rather different case of resource towns. Fiscal and planning responsibility must stand in a reasonable relation to fiscal and legal power and capability. This will not always be the case in resource town development.

The costs referred to in Proposition 7 are the costs of infrastructure and the costs of housing required. The economic agents involved are the resource firm, individuals (employees and dependents), and municipal and

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[59] For a different perspective see G. Paget and B. Walisser, Resilience, p. 119. What, for example can local self-government mean in the case of Uranium City, Saskatchewan whose population has shrunk to 180 people and costs the provincial government $2.5 million annually for the support of basic services. See "Lobby formed", Globe and Mail, 14 March 1985, p.4.

provincial governments. At the one extreme is the company town in which the firm owns both housing and infrastructure and their cost enter the firm's cost function. At the other extreme is an isolated single-industry resource town with privately-owned housing and publicly provided infrastructure. Cost and risk minimization point to alternatives such as the use of existing towns which entails the substitution of longer (and costlier) journeys to work for capital outlays. Further advantages are a less dedicated infrastructure and a more flexible and less risky real estate market. Providing workers' transportation, usually a company responsibility, shifts at least part of the burden back into the cost function of the resource firm. A reasonable and equitable principle to follow would be for the firm to assume all associated housing and infrastructure costs if their only use is to serve resource production, and a decreasing share as the degree of dedication declines. This would make the existing town option, where it applies, more attractive to the mining firm. Cost shares should not be altered because of possible economic diversification of a mining town in the future. According to the evidence available, such potential appears to be very limited even in much more advantageously located non-resource communities.[60] It is, in any case, much easier to make a reimbursement *ex post facto* if it turns out that the mining firm overpaid than to increase its burden if anticipated development does not materialize.

On the basis of the theoretical considerations and empirical information of earlier sections, coupled with a rejection of the status quo, Proposition

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[60] See, for example, Federal, Provincial and Territorial Ministers, Report, pp. 55-63.

8 advances the specific policy option of using a property tax on the industrial assessment of the resource firms as a revenue source. The viability of the recommendation contained in Proposition 8 may be tested by examining it in the context of a number of standard criteria. These are the economic criteria of efficiency and equity and the non-economic criteria of administrability and acceptability. A large body of literature exists regarding the economic characteristics of the property tax and its undesirable characteristics have been noted in textbooks, articles, and reports. This has led to a large decline in its importance in some countries.[61] For the purpose of this report the continued existence and widespread use of the property tax is taken as a given and the following comments are restricted to its role in the municipal finance framework of resource towns.

Efficiency and Equity: The efficiency criterion deals with the impact of economic policies on the allocation of resources and the effect on production and consumption decisions. The equity criterion is concerned, essentially, with the issue of fairness. In tax matters this is usually examined in terms of horizontal and vertical equity. Such general questions will not be dealt with here except to state that it is generally agreed that the property tax is far from neutral in its effect on resource allocation and that it is regressive. The points to be made here are focused more narrowly on Proposition 8. Thirsk has

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[60] See, for example, S.D. Gold, "Scandinavian Local Income Taxes: Lessons for the United States," Public Finance Quarterly, Vol.5 (October 1977), pp. 471-488 and M.L. McMillan and R.H.M. Plain, The Reform of Municipal-Provincial Fiscal Relationships in the Province of Alberta, Edmonton: Alberta Urban Municipalities Association, August 1979, p. V-11.

argued[62] that the nonresidential property tax is undesirable on efficiency grounds because it is the equivalent of a municipal profits tax which, because it is based on capital, will distort resource allocation. It will result in an inefficient oversupply of local public services because access to these revenues reduces the tax price of the services to local residents. On equity grounds Thirsk contends that since all or part of the tax burden is exported and the incidence falls on nonresidents it is inequitable and amounts to taxation without representation. It is argued here that Thirsk's points are incorrect and that Proposition 8 is quite proper and defensible in light of these criteria. The flaw in the argument stems from the fact of not taking into account the multiple role of the property tax which was so clearly pointed out by Bossons.[63] The property tax is at once a benefits tax (tax payments in lieu of service charges for benefits received), an externality compensation (charging for global external diseconomies created), and a general tax (collecting revenues because there is an ability-to-pay).

The criticism applies, if at all, only to the general tax

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[62] Wayne R. Thirsk, "Political Sensitivity Versus Economic Sensibility: A Tale of Two Property Taxes," in Wayne R. Thirsk and John Whalley, eds., Tax Policy Options in the 1980s, Toronto: Canadian Tax Foundation, February 1982, pp. 384-401, esp. p. 397.

[63] John Bossons, "Property Tax Reform: What Is Desirable?." in John Bossons, Michael Denny and Enid Slack, Municipal Fiscal Reform in Ontario: Property Taxes and Provincial Grants, Toronto: Ontario Economic Council, 1981, pp. 9-88.

function of the property tax.[64] It may not even apply here if either there is no significant shifting or the total value of benefits received and global externalities generated is as large as or greater than the amount of the nonresidential property tax. This will often be the case and has led to the policy recommendation of taxation at "the full rate plus" for large-scale industrial enterprises.[65] This recommendation appears to be sound and is supported here.

Further support for the "full rate plus" concept may be rendered by pointing out that the nonresidential property tax applies in general to all firms since they are usually located in a municipality. To exempt resource firms from it violates the principle of horizontal equity and gives too much weight to the historical accident of how municipal boundaries were drawn and the formal process of incorporation. Firms, including resource firms, exist in a symbiotic relationship with a town (or several) and receive, in addition to the more tangible benefits refered to above, a spectrum of less tangible localization or urbanization economies. A part of the property tax is required for the maintenance and improvement of the multi-faceted 'organism' that a town represents. It must be contributed to by all who have a stake in it, administrative boundaries notwithstanding. To do otherwise would make the relationship a parasitic one.

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[64] See also Enid Slack, "Comment", and Roger S. Smith, "Comment" on W.R. Thirsk, "Sensitivity and Sensibility", pp. 401-406.

[65] See British Columbia, Boundaries, p. 46.

Administrability: Once Proposition 8 has been accepted conceptually, the question regarding implementation remains. Two possibilities exist: the tax could either be levied directly by the municipality (municipalization) or it could be levied by the provincial government and transfered to the municipality through a grant system (provincialization).[66] Provincialization, as used here, refers to the provincialization of the tax base of individual resource firms rather than that of all firms.

Municipalization entails the extension of the taxing authority of the town to encompass the natural resource project. In general it cannot be expected that administrative boundaries, likely fixed according to historical accident or some survey criterion, will be sensible in view of the municipal finance problems in a resource-based region. Clearly, for this particular policy problem a polarized or nodal region should be defined.[67] It combines for policy purposes into one region geographical areas between which functional economic relationships exist.[68] Whether or not the two or more areas are

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[66] See in this context also British Columbia, Boundaries, pp. 27-35 from which this discussion has benefitted. Ruralization, a third alternative, is considered to be less applicable and will not be dealt with further. It would only apply to company towns or remote camps but even in that situation provincialization appears to be preferable.

[67] For a brief treatment regarding the delineation of regions see T.N. Brewis, Regional Economic Policies in Canada, Toronto: The Macmillan Company of Canada Limited, 1969, pp. 46-48.

[68] A good example would be treatment as one region of a metro area and a nearby satellite community for the purpose of providing public transit even though they are separate entities politically and administratively.

physically connected is not of importance and different solutions may be devised depending on the specific nature of the case.[69] The municipalization option enhances local autonomy and will work best in situations where it is possible to take a long-run view with respect to resource availability, stability of demand, and local fiscal responsibility. As noted above, more than one municipality is involved a tax-sharing arrangement has to be devised.

The necessity for extensive provincial involvement in resource town issues is undeniable. This is especially so in the often turbulent initial growth or final decline stages, but may also occur in the more stable middle phase if business cycles result in production slow-down or temporary mine-shutdown. The more complex financial arrangements covering those situations (including, say, performance bonds and contingency funds) can only be made and administered by a senior government and tend to favour the provincialization of natural resource industry assessment.

While municipalization may be considered as the prefered option, provincialization may be more appropriate in some cases. The range of possible cases would appear to be too wide for one policy to satisfice and yet, on the other hand, not so large that the cases could not be handled on an individual basis within a clearly established policy framework. The two policy options mentioned here do not appear to be mutually exclusive among projects nor, indeed, for a given project at different

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[69] For different examples see British Columbia, Boundaries, p. 72.

stages of its development.

Regarding implementation it was pointed out above that municipalization and tax-sharing schemes are being used in British Columbia with generally satisfactory results. Even if it were desired to make the industrial property tax, in its application to large-scale resource projects, more of a benefits/externality charge, no serious administrative problems are envisaged.[70]

Acceptability: With respect to acceptability this report can do no more than offer a few reasonable comments. There are at least four agents, or interest groups, involved and they will be looked at in turn. The agents are:

a) the municipal government
b) the resource firm
c) the provincial government as a representative of the owners of the resource
d) the provincial government as a political body.

First, Proposition 8 and associated policy proposals will be acceptable to the municipal governments of resource towns because they will, in general, be better off than they are with present arrangements. This will be so even for provincialization if it is handled cooperatively rather than confrontationally.

Second, resource firms will tend to respond negatively because,

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[70] See also "Further Discussion" on W.R. Thirsk, "Sensitivity and Sensibility", p. 406.

everything else being equal, they are worse off under the new policy. Either their profits are lower or their competitive markets situation is weaker, depending on the ability to shift the tax burden. Upon closer examination, however, the negative response must be judged to be merely a bargaining position rather than one of substance. The point is that full production costs, private and social, must be paid by the buyer of the resource. Failure to do so would result in a misallocation of resources through overconsumption of the resource. Moreover, the objective is not sales maximization but the maximization of net returns. These are defined as revenues minus costs and the latter must include infrastructure costs. Besides, circumstantial evidence suggests that resource firms have no trouble accommodating Proposition 8.

Third, the policy suggestion is acceptable to the owners of the resource because it eliminates the previous situation in which resource production was subsidized in several indirect ways.

Fourth, the policy does not represent a radical departure from current practice. It is, rather a move to enhance efficiency and equity within the current system of ownership and institutions. This should make it politically attractive.

6. SUMMARY AND CONCLUSION

This report examined different theoretical frameworks in which resource town development, as a part of the wider issue of regional and resource development, may be viewed. It noted that they entail different policy orientations. Such a more general approach was considered to be important because the attitude towards resource development in general has, in turn, repercussions on the policy formation regarding the central topic of this report, the fiscal position of resource towns.

In the empirical section of the report demographic and fiscal data were analyzed which led to the conclusion that resource towns differ from non-resource towns in a number of respects. During the review period 1973-1983 they exhibited significantly faster population growth than the non-resource reference communities. It was noted, however, that the growth rates have declined in the latter part of the period.

A number of fiscal variables, such as assessment, property tax revenues, and government transfers were analyzed. These point quite consistently to an inherently weaker fiscal position for resource towns. Their greater reliance on transfers was noted.

A brief delineation of the resource town situation in Alberta and elsewhere was followed by a discussion of alternative policy options and institutional arrangements. The scope of this discussion was narrowed down from the outset by adopting as a theoretical framework a modern laissez faire approach. It is laissez faire in that it assigns the primary role in resource production to the private sector for all the

well-known theoretical efficiency reasons. But this recognition of the separation of industry and state is a pragmatic not a dogmatic one. The approach is modern in that it recognizes for the government a number of functions which it must carry out if efficiency and equity are accepted as desiderata. Among these are:

a) corrective function -- accounting for environmental and infrastructure costs

b) allocative/supportive function -- provision of infrastructure where warranted

c) appropriative function -- collection of resource rents as payment for the resource; ability-to-pay component of property tax.

The policy discussion advances the view that in the present socio-economic and institutional environment, the industrial property tax is the appropriate vehicle for the appropriate placement of the cost burden incurred through global externalities spun off by large-scale natural resource projects.

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A P P E N D I X A

TABLE A-1

POPULATION
GROUP 1 COMMUNITIES

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973	1,309	4,095	8,148	2,600	3,580	5,326	25,058
1974	1,309	4,079	9,542	2,673	2,906	5,626	26,135
1975	1,309	4,111	13,393	2,912	3,457	6,266	31,448
1976	1,303	4,241	15,321	2,751	4,172	6,597	34,385
1977	1,317	4,445	20,373	2,780	4,423	7,067	40,405
1978	1,317	5,015	24,580	2,780	4,423	7,319	45,434
1979	1,585	5,403	25,802	2,829	4,423	7,412	47,454
1980	1,642	5,671	27,784	3,107	4,423	8,018	50,645
1981	2,058	6,027	30,772	3,057	4,423	8,352	54,689
1982	2,058	6,291	33,576	3,146	4,624	8,819	58,514
1983	2,245	6,210	34,494	3,119	4,624	8,825	60,636

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-2

POPULATION
GROUP 2 COMMUNITIES

Year	Crowsnest Pass[1]	Drayton Valley	Fox Creek	Swan Hills	Whitecourt	Total
1973	4,704	3,954	1,517	2,038	3,230	15,443
1974	4,905	4,041	1,569	2,169	3,306	15,990
1975	4,791	4,030	1,569	2,197	3,549	16,136
1976	5,172	4,257	1,619	2,076	3,787	16,911
1977	5,289	4,303	1,765	2,206	4,056	17,619
1978	7,340	4,416	1,811	2,351	4,400	20,318
1979	7,340	4,673	1,811	2,553	4,758	21,135
1980	7,340	5,076	1,905	2,553	5,153	22,027
1981	7,340	5,076	1,905	2,473	5,408	22,202
1982	7,577	4,867	1,978	2,497	5,408	22,327
1983	7,577	4,867	1,978	2,497	5,408	22,327

[1]For the purpose of this Report, prior to 1979 Crowsnest Pass includes the communities of Bellevue, Blairmore, Hillcrest, and Frank.

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-3

POPULATION
REFERENCE COMMUNITIES

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Total
1973	9,006	5,888	5,071	4,414	3,867	3,524	31,770
1974	9,194	5,888	5,071	4,414	3,867	3,603	32,037
1975	9,248	5,888	5,071	4,430	4,003	3,669	32,309
1976	10,073	6,032	4,597	4,588	4,101	3,685	33,076
1977	10,593	6,154	5,044	4,636	4,158	3,824	34,409
1978	10,593	6,198	5,235	4,636	4,281	3,824	34,767
1979	11,210	6,204	5,692	4,845	4,281	3,824	36,056
1980	11,898	6,380	5,754	4,873	4,809	3,824	37,538
1981	12,357	6,380	6,043	5,086	4,809	3,824	38,499
1982	12,809	6,508	6,043	5,221	5,251	4,432	40,264
1983	12,809	6,671	6,043	5,221	5,251	5,408	41,403

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-4

POPULATION
CITY OF LETHBRIDGE

Year	Lethbridge
1973	42,816
1974	43,612
1975	44,522
1976	46,818
1977	45,975
1978	50,268
1979	51,668
1980	53,135
1981	54,624
1982	56,500
1983	58,086

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-5

EQUALIZED PROPERTY ASSESSMENT ($)
GROUP 1 COMMUNITIES
1973-1983[1]

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973	1631770	7044950	20342270	3713820	6288390	16582530	55603730
1974	1890730	8349920	30786590	4466050	6210100	18160640	69864030
1975	2171970	8276640	37365610	4521080	6052780	17162370	75550450
1976	2235880	9154820	55573830	5575900	7018380	20088260	99647070
1977	2924040	10395400	74142700	6651510	8656130	22230910	125000690
1978	3545100	14399400	93476870	8132090	11394550	24943610	155891620
1979	8077240	21287480	133390110	13328600	12708930	32778040	221570400
1980	10802740	29985010	164554180	18670930	14389580	49250510	287652950
1981	15348050	37521100	192312760	22674040	16209380	59600810	343666140
1982	16660070	46605880	229556510	24151790	18341320	69575940	404891510
1983	15903550	47894330	236010180	24469400	19137580	78205820	421620860

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

1 Note that equalized assessment figures published for any given year correspond to the previous year's actual assessment. Allowance for this lag has been made in the preparation of this table.

TABLE A-6

EQUALIZED PROPERTY ASSESSMENT ($)
GROUP 2 COMMUNITIES
1973-1983[1]

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Hills	Whitecourt	Total
1973	5253950	6740380	3108450	2721540	7119190	24943510
1974	5439720	7422480	3294480	2989440	8558440	27704560
1975	5490880	6994720	3421010	2890270	8047580	26844460
1976	6005460	7781150	3680470	2911540	9573370	29951990
1977	7449540	9176730	4027300	3304490	10825230	34783290
1978	15070910	11508870	4823730	3678690	12986510	48068710
1979	23537280	18169320	5901290	5821200	21783650	75212740
1980	29446460	26427580	7112650	7791170	27478150	98256010
1981	33824840	32659470	8733390	9736170	34491030	119444900
1982	38194220	35128840	10265250	11368930	37713500	132670740
1983	41118810	35995070	10562840	11865300	39048890	138590910

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

1 Note that equalized assessment figures published for any given year correspond to the previous year's actual assessment. Allowance for this lag has been made in the preparation of this table.

TABLE A-7

EQUALIZED PROPERTY ASSESSMENT ($)
REFERENCE COMMUNITIES
1973-1983[1]

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Total
1973	20014150	13936060	10552350	7595830	8160370	6737560	66996320
1974	21929860	15996410	11988310	9087130	11067190	7333590	77402490
1975	20757300	12740690	10340400	8260210	9076410	6997140	68172150
1976	25101010	14089080	12102780	11346630	13836400	7945310	84421210
1977	33282230	15509190	12599750	12958680	17166230	9579620	101095700
1978	39003890	18058720	15129450	18542250	19995590	13470910	124200810
1979	54010680	25389580	24035360	23584870	28801120	20083780	175905390
1980	66148700	31779340	32058840	30738290	38278260	23371610	222375040
1981	74009590	35348110	36891180	35322580	45744690	27499570	254815720
1982	84234230	43277840	41265590	37331760	50343100	31575030	288027550
1983	89580510	43807160	41594170	38409500	46836890	29223760	289451990

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

1 Note that equalized assessment figures published for any given year correspond to the previous year's actual assessment. Allowance for this lag has been made in the preparation of this table.

TABLE A-8

EQUALIZED PROPERTY ASSESSMENT ($)
CITY OF LETHBRIDGE
1973-1983[1]

Year	Lethbridge
1973	102,522,510
1974	115,126,260
1975	131,990,330
1976	149,047,960
1977	177,294,460
1978	210,122,320
1979	270,846,710
1980	333,301,370
1981	377,832,700
1982	434,707,730
1983	460,266,860

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

1 Note that equalized assessment figures published for any given year correspond to the previous year's actual assessment. Allowance for this lag has been made in the preparation of this table.

TABLE A-9

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
TOTAL TAXATION[1] ($)
GROUP 1 COMMUNITIES

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973[2]	145,852	607,286	1,198,691	296,294	430,492	1,072,013	3,750,628
1974[3]	126,276	634,409	1,860,777	349,726	393,303	1,059,988	4,424,479
1975	172,203	788,093	2,425,286	433,228	573,386	1,367,629	5,759,825
1976	214,241	870,635	4,269,771	505,637	640,809	1,628,734	8,129,827
1977	279,529	1,028,161	6,793,141	579,202	761,438	1,724,917	11,166,388
1978	323,127	1,235,358	8,589,420	660,555	909,485	2,015,712	13,733,657
1979	449,778	1,569,518	10,858,599	856,273	1,067,569	2,350,676	17,152,413
1980	675,045	2,028,282	13,522,963	1,220,755	1,116,262	2,895,569	21,458,876
1981	962,792	2,709,905	17,012,851	1,534,641	1,306,435	3,717,935	27,244,559
1982	1,147,333	4,053,015	21,018,780	1,828,309	1,502,659	4,583,370	34,133,466
1983	1,154,265	4,361,769	22,800,792	1,968,123	1,520,459	4,684,316	36,489,724

SOURCE: Calculated from Alberta Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton: Alberta Municipal Affairs, 1973-1983.

1 Total Taxation consists of Taxes and Grants-in-lieu of Taxes.

2 Total Taxation for 1973 is the Amalgamated Tax Levy, General Fund.

3 Total Taxation for 1974 is as defined in (1) but from General Operating Fund. The difference, if any, should not be significant.

TABLE A-10

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
TOTAL TAXATION ($)[1]
GROUP 2 COMMUNITIES

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Lake	Whitecourt	Total
1973[2]	504,765	589,997	250,821	150,549	479,989	1,976,121
1974[3]	504,490	553,836	258,749	163,255	501,538	1,981,868
1975	635,459	714,133	329,878	231,327	652,198	2,562,995
1976	689,656	772,145	360,273	328,762	757,932	2,908,768
1977	759,245	881,830	378,938	371,995	1,016,151	3,408,159
1978	952,957	1,106,225	419,058	404,797	1,202,040	4,085,077
1979	1,455,508	1,369,245	449,277	408,576	1,387,433	5,070,039
1980	1,817,826	1,876,318	472,083	576,621	1,635,851	6,378,699
1981	2,401,048	2,314,623	599,790	1,102,673	1,916,136	8,334,270
1982	2,904,332	2,963,267	661,548	1,263,789	2,417,883	10,210,819
1983	3,496,072	3,134,377	729,709	1,346,876	2,356,705	11,063,739

SOURCE: Calculated from Alberta Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton: Alberta Municipal Affairs, 1973-1983.

1 Total Taxation consists of Taxes and Grants-in-lieu of Taxes.

2 Total Taxation for 1973 is the Amalgamated Tax Levy, General Fund.

3 Total Taxation for 1974 is as defined in (1) but from General Operating Fund. The difference, if any, should not be significant.

TABLE A-11

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
TOTAL TAXATION ($)[1]
REFERENCE COMMUNITIES

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	Westlock	Total
1973[2]	1,711,691	873,488	996,782	667,543	731,164	593,566	5,574,234
1974[3]	1,705,106	1,319,314	1,083,246	615,284	730,342	600,176	6,053,468
1975	2,099,172	1,478,170	1,246,484	746,570	976,643	699,633	7,246,672
1976	2,542,921	1,618,405	1,346,842	912,230	1,108,419	753,605	8,282,422
1977	3,045,003	1,719,608	1,714,433	1,021,645	1,258,610	854,292	9,613,591
1978	3,655,436	1,925,607	1,785,180	1,245,237	1,674,767	1,049,516	11,335,743
1979	3,855,430	2,148,669	1,977,456	1,467,542	2,167,593	1,393,679	13,010,369
1980	4,481,855	2,621,426	2,382,166	1,805,436	2,933,388	1,669,728	15,893,999
1981	5,304,814	3,284,696	3,287,518	2,619,480	3,775,916	2,103,033	20,375,457
1982	6,091,274	3,818,446	3,745,869	2,671,492	4,365,719	2,266,516	22,959,316
1983	6,677,399	4,148,027	3,904,826	2,646,484	4,683,281	2,355,524	24,415,541

SOURCE: Calculated from Alberta Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton: Alberta Municipal Affairs, 1973-1983.

1 Total Taxation consists of Taxes and Grants-in-lieu of Taxes.

2 Total Taxation for 1973 is the Amalgamated Tax Levy, General Fund.

3 Total Taxation for 1974 is as defined in (1) but from General Operating Fund. The difference, if any, should not be significant.

TABLE A-12

CONSOLIDATION OF OPERATING FUND
STATEMENTS OF REVENUE AND EXPENDITURE
TOTAL TAXATION[1] ($)
CITY OF LETHBRIDGE

Year	Lethbridge
1973	9,078,384
1974	8,862,680
1975	10,461,602
1976	12,512,264
1977	14,261,653
1978	16,812,736
1979	18,448,421
1980	20,758,909
1981	23,827,178
1982	27,300,246
1983	30,044,125

SOURCE: Calculated from Alberta Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton: Alberta Municipal Affairs, 1973-1983.

1 Total Taxation consists of Taxes and Grants-in-lieu of Taxes.

2 Total Taxation for 1973 is the Amalgamated Tax Levy, General Fund.

3 Total Taxation for 1974 is as defined in (1) but from General Operating Fund. The difference, if any, should not be significant.

TABLE A-13

REQUISITION STATEMENT
TOTAL REQUISITION
GROUP 1 COMMUNITIES
1973-1983

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973	57,141	266,996	473,074	106,003	274,774	624,967	1,802,955
1974	31,403	194,162	555,210	88,766	133,021	541,040	1,543,602
1975	39,030	294,993	886,241	96,841	113,731	704,040	2,134,876
1976	52,604	304,047	1,395,043	113,429	127,003	684,790	2,676,916
1977	66,283	317,581	2,181,671	158,588	175,510	726,311	3,625,944
1978	99,837	382,188	2,873,182	230,232	238,923	867,000	4,691,362
1979	153,901	581,728	3,973,269	341,067	346,774	1,109,561	6,506,300
1980	339,782	655,178	5,292,491	564,834	347,982	1,108,259	8,308,526
1981	409,093	917,243	6,755,437	732,047	273,727	1,599,855	10,687,402
1982	546,618	1,273,966	8,108,422	865,067	421,141	2,085,962	13,301,176
1983	560,264	1,343,929	9,092,172	872,647	335,921	2,069,684	13,714,617

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

TABLE A-14

REQUISITION STATEMENT
TOTAL REQUISITION
GROUP 2 COMMUNITIES
1973-1983

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Hills	Whitecourt	Total
1973	214,138	189,205	79,344	77,030	198,916	758,633
1974	201,646	141,451	53,379	83,537	147,027	627,040
1975	222,011	176,676	47,151	69,358	188,335	703,531
1976	249,970	194,069	50,806	74,764	215,414	785,023
1977	271,185	238,890	59,995	68,356	256,089	894,515
1978	372,050	306,008	76,150	71,385	268,955	1,094,548
1979	817,102	394,061	111,954	89,757	343,680	1,756,554
1980	1,134,208	534,342	138,051	116,969	581,669	2,505,239
1981	1,276,631	708,213	157,524	129,672	725,729	2,997,769
1982	1,275,500	979,562	199,241	125,961	834,580	3,414,844
1983	1,308,118	1,164,881	233,776	161,870	870,946	3,739,591

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

TABLE A-15

REQUISITION STATEMENT
TOTAL REQUISITION
REFERENCE COMMUNITIES
1973-1983

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Total
1973	629058	414759	429817	349315	350418	248924	2422291
1974	343256	349710	315537	231208	244842	198668	1683221
1975	478347	293270	414225	301894	339884	225244	2052864
1976	703053	280779	422516	321687	337338	248329	2313702
1977	896286	373466	537169	427198	581820	304031	3119970
1978	1247266	404485	579453	576535	729259	382772	3919770
1979	1553721	620008	736043	875724	933342	563031	5281869
1980	2020098	876802	996258	1163998	1158130	758967	6974253
1981	2168978	1028307	1120551	1168276	1473021	812209	7771342
1982	2434620	1424601	1319575	1280498	1823175	887400	9169869
1983	2495321	1480286	1430368	1194743	2019401	938041	9558160

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

TABLE A-16

REQUISITION STATEMENT
TOTAL REQUISITION
CITY OF LETHBRIDGE
1973-1983

Year	Lethbridge
1973	4,031,778
1974	2,770,675
1975	3,277,259
1976	4,545,483
1977	5,474,362
1978	6,809,385
1979	8,643,023
1980	9,316,783
1981	10,590,973
1982	12,393,379
1983	13,948,838

SOURCE: Alberta Municipal Affairs, Municipal Services Branch.

TABLE A-17

CONSOLIDATION OF OPERATING FUND
TOTAL OPERATING TRANSFERS ($)
GROUP 1 COMMUNITIES[1]

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973[1]	57229	251390	526055	91227	420702	197017	1543620
1974	74806	599010	754431	176823	316548	223651	2145268
1975	67571	359634	959381	173416	1696583	913369	4169954
1976	79657	1222301	1629784	198300	360193	334050	3824285
1977	93340	385096	2260659	265884	439175	681390	4125543
1978	122470	531314	5182535	382986	471795	799233	7490333
1979	802940	3094539	18611215	1762602	2834367	4559886	31665549
1980	193129	704444	4289810	430000	740215	4639484	10997082
1981	306472	659878	4673977	495094	579681	914870	7629972
1982	351182	1243633	6275876	705441	1252350	1092192	10920674
1983	492152	1159979	5228605	781305	881420	1368841	9912302

[1]Figures for 1973 are from General Operating Fund.

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-18

CONSOLIDATION OF OPERATING FUND
TOTAL OPERATING TRANSFERS ($)
GROUP 2 COMMUNITIES

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Hills	White-court	Total
1973[1]	204608	162576	110425	137566	147100	762275
1974	306957	199475	148886	150975	276062	1082355
1975	454835	248173	157328	174717	174717	199689
1976	364313	292283	153744	239403	222674	1272417
1977	534024	345073	162867	333773	341669	1717407
1978	736908	631984	163861	243705	574274	2350731
1979	3394761	2847912	1128808	1619407	2860269	11851158
1980	3569652	774520	191842	535390	734382	5805785
1981	1007380	596836	206699	443067	529958	2783940
1982	1055731	887298	344772	442047	820708	3550556
1983	1320632	893949	298811	398993	780099	3692484

[1]Figures for 1973 are from General Operating Fund.

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-19

CONSOLIDATION OF OPERATING FUND
TOTAL OPERATING TRANSFERS ($)
REFERENCE COMMUNITIES

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Total
1973[1]	258696	335097	242489	236186	137298	86456	1296222
1974	349997	114791	301788	280953	269114	106868	1423512
1975	554425	150817	334165	355939	388289	242718	2026352
1976	642846	183482	578534	464082	407186	186566	2462696
1977	700730	203371	622777	458539	504701	184322	2674440
1978	721339	268311	1506727	909252	529970	339974	4275573
1979	6441147	3535254	3385724	3675964	3466720	2518410	23023220
1980	1594386	673741	2171981	1107477	703581	371692	6622858
1981	1361424	447015	876490	586973	554318	231365	4057585
1982	1698260	636668	1253348	698137	571704	228222	5086339
1983	1596668	667017	1179712	783473	753620	276641	5257131

[1]Figures for 1973 are from General Operating Fund.

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-20

CONSOLIDATION OF OPERATING FUND
TOTAL OPERATING TRANSFERS ($)
CITY OF LETHBRIDGE

Year	Lethbridge
1973[1]	2,359,384
1974	4,056,103
1975	2,898,427
1976	3,658,881
1977	5,141,590
1978	4,743,812
1979	30,319,501
1980	6,034,286
1981	4,515,633
1982	7,133,801
1983	7,402,853

[1]Figures for 1973 are from General Operating Fund.

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-21

CONDITIONAL CAPITAL TRANSFERS FROM GOVERNMENTS[1] ($)
GROUP 1 COMMUNITIES

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Total
1973	-	101900	-	38135	94843	781124	1016002
1974	-	60456	1486423	127747	985310	-	2659936
1975	89511	7144	644875	38975	4289	625485	1410279
1976	22080	7293	1525085	10546	2965	116375	1684344
1977	27794	55793	64612	67179	-	64612	319050
1978	237917	343961	2631911	205101	-	5690	3424581
1979	36980	1074142	660000	115466	-	665468	2552056
1980	1480504	1362549	-	1875871	-	897175	5616100
1981	1368809	576536	3385385	2234248	1461829	626339	9653146
1982	1311140	619592	2337000	2494475	875950	367429	8005586
1983	956568	46760	2555513	692100	420833	87119	4758893

[1]Includes grants from federal, provincial, municipal governments only (no interfund transfers).

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-22

CONDITIONAL CAPITAL TRANSFERS FROM GOVERNMENTS[1] ($)
GROUP 2 COMMUNITIES

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Hills	White-court	Total
1973	94342	4823	138293	20573	-	258031
1974	107129	281358	162193	-	6641	557321
1975	178381	105000	157874	315614	57959	814828
1976	151572	68887	175460	37258	123438	556614
1977	337951	-	28979	73314	268745	708989
1978	170103	82814	-	290893	266544	810354
1979	3194936	84972	-	1114527	4755369	9149804
1980	1348112	243324	808142	2416824	3657024	8473426
1981	320562	863092	1005413	1262697	1183894	4635658
1982	462794	1781474	282453	1290723	670220	4487664
1983	2605006	847519	365936	62150	58700	3939311

[1]Includes grants from federal, provincial, municipal governments only (no interfund transfers).

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-23

CONDITIONAL CAPITAL TRANSFERS FROM GOVERNMENTS[1] ($)
REFERENCE COMMUNITIES

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Total
1973	-	-	84340	-	122307	-	206647
1974	-	205446	115978	-	15253	10000	346677
1975	454726	-	12445	108280	523151	82553	1181155
1976	1034486	107562	126100	824100	125938	100000	2218186
1977	629200	494990	547956	46330	1606167	57858	3382501
1978	428260	544416	87065	100000	370553	87609	1530294
1979	997661	246522	99591	126000	1735898	311152	3516824
1980	1278097	925820	1912206	433786	1847287	802417	7199613
1981	3855155	2042064	3127979	309137	151426	1179176	10664937
1982	3057036	3798666	5716766	49619	567216	397300	13586603
1983	3170434	6560121	3495749	1481062	830693	29195	15567254

[1]Includes grants from federal, provincial, municipal governments only (no interfund transfers).

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-24

CONDITIONAL CAPITAL TRANSFERS FROM GOVERNMENTS[1] ($)
CITY OF LETHBRIDGE

Year	Lethbridge
1973	404,077
1974	3,178,785
1975	1,916,454
1976	1,369,694
1977	2,932,049
1978	3,445,936
1979	2,876,153
1980	9,630,135
1981	7,216,099
1982	16,111,905
1983	21,050,990

[1]Includes grants from federal, provincial, municipal governments only (no interfund transfers).

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-25

TOTAL DEBT PER CAPITA ($)
GROUP 1 COMMUNITIES
1973-1983

Year	Cold Lake	Edson	Fort McMurray	Grand Centre	Grande Cache	Hinton	Average
1973	320.87	291.38	587.13	386.92	544.37	194.22	387.48
1974	367.70	277.54	500.81	430.53	651.83	306.38	422.47
1975	819.57	261.57	424.24	389.08	1,087.30	211.40	532.19
1976	849.86	239.34	947.56	533.99	473.09	398.23	573.68
1977	867.61	213.80	798.62	584.90	439.13	361.95	544.34
1978	1,576.25	176.68	770.28	1,113.18	598.08	333.26	761.29
1979	895.70	920.46	325.28	622.56	118.03	413.31	549.22
1980	1,655.13	777.31	337.93	784.37	115.30	362.40	672.07
1981	1,380.17	1,756.68	575.32	1,560.24	492.24	764.98	1,088.15
1982	2,539.76	1,765.14	527.28	2,730.66	466.42	754.61	1,463.98
1983	2,780.78	1,782.15	556.99	3,131.65	461.53	744.07	1,576.20

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-26

TOTAL DEBT PER CAPITA ($)
GROUP 2 COMMUNITIES
1973-1983

Year	Crowsnest Pass	Drayton Valley	Fox Creek	Swan Hills	White-court	Average
1973	317.19	451.37	93.88	405.62	425.09	338.63
1974	427.16	512.93	88.84	363.68	499.87	378.50
1975	557.90	528.72	353.26	482.12	562.88	496.98
1976	2,224.09	516.80	818.66	990.37	906.06	1,091.20
1977	2,132.35	609.03	793.21	891.28	1,081.46	1,101.47
1978	2,365.71	541.61	1,118.55	798.58	1,094.47	1,183.78
1979	475.75	787.77	802.38	917.50	1,019.21	800.52
1980	482.64	1,086.24	934.54	1,493.77	913.01	982.04
1981	546.21	1,219.34	1,285.06	1,561.77	1,524.94	1,227.46
1982	824.82	1,249.00	1,286.52	1,482.48	1,487.83	1,266.13
1983	950.94	1,025.97	1,292.38	1,508.14	1,686.95	1,292.88

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-27

TOTAL DEBT PER CAPITA ($)
REFERENCE COMMUNITIES
1973-1983

Year	Camrose	Drum-heller	Peace River	Ponoka	Vegre-ville	West-lock	Average
1973	248.61	421.73	537.13	255.29	551.74	438.25	408.79
1974	251.00	461.42	540.94	237.06	550.98	439.11	413.42
1975	393.00	548.42	678.51	315.87	657.49	404.77	499.68
1976	324.10	785.33	813.30	460.75	736.27	378.09	582.97
1977	377.57	832.60	871.80	467.71	839.88	343.44	622.17
1978	365.77	950.01	846.40	853.34	1,226.15	447.18	781.48
1979	284.65	562.02	1,197.33	694.82	1,371.76	265.25	729.31
1980	882.07	1,014.41	1,460.42	810.92	1,315.82	576.56	1,010.03
1981	1,011.26	1,153.28	1,817.40	864.13	1,298.01	679.80	1,137.31
1982	1,412.82	1,260.69	1,965.45	840.22	1,481.99	602.09	1,260.54
1983	1,449.61	1,387.13	2,016.81	808.15	1,442.99	466.06	1,261.79

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.

TABLE A-28

TOTAL DEBT PER CAPITA ($)
CITY OF LETHBRIDGE
1973-1983

Year	Lethbridge
1973	462.41
1974	486.08
1975	563.52
1976	552.61
1977	542.20
1978	540.35
1979	331.65
1980	744.28
1981	887.89
1982	896.02
1983	1,077.51

SOURCE: Alberta, Municipal Affairs, Municipal Inspection and Advisory Services Branch, Municipal Statistics, Edmonton, Alberta Municipal Affairs, 1973-1983.